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Preface

About the Conference
IICCRHE-2018 is interdisciplinary as well as multidisciplinary conference intended to provide a global platform to the Researchers, Academicians, Industrial personnel and Students to share their researches, ideas and have intellectual deliberations and application of all upcoming challenges in Curriculum with reference to Higher education with National and International delegates.

About Shivaji University
About Shivaji University
Shivaji University, established in 1962, is named after the Great Maratha Warrior and founder of the Maratha emperor Chhatrapati Shivaji. It was inaugurated on 18th November, 1962 by Dr. Radhakrishnan, the then President of India. One of the major objectives behind foundation of this University was to cater to the regional needs of South Maharashtra. The jurisdiction of the University is spread over three districts viz. Kolhapur, Sangli and Satara with strength of about 3,00,000 students studying in 271 affiliated colleges and recognized institutes with 40 departments, along with traditional Graduate and Post Graduate courses. University has signed number of MoUs with various research institutions of national and international repute. University has started innovative courses like Nano Science & Technology, Social work and Rural Studies. This region of Maharashtra boasts of rich and varied socio-cultural heritage. The University's efforts towards excellence are being recognized by the substantial grants received from funding agencies like UGC, DST, DBT etc. The prestigious university has recently been accredited with A Grade by NAAC having CPGA 3.16.
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CURRICULUM REFORMS AND CASE STUDIES

First author
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Abstract
The best curriculum can connect the content being taught and in developing the capacity to think and learn independently. Curriculum can be considered as a medium to pass the values of higher order thinking and learning skills and provides a path for their integration into curriculum.

While reforming curriculum educators should think about how students learn, a teacher's role in the classroom, the ability of levels of students in a particular age group and the relative importance of content topics. The most important student outcome is factual knowledge which is based on success of curriculum implementation.

Present research paper describes how case study method of teaching is useful and how to introduce these in the curriculum of required stages of education. Particularly this research paper focuses on the syllabus of BSc Physics of Shivaji University, Kolhapur.

It shows a new and innovative method of developing and implementing Case Studies as per the requirement of BSc Physics syllabus of Shivaji University, Kolhapur.

Curriculum is a comprehensive plan for an Educational/Training programme course to offer new/improved manpower to fulfill the rising needs of a dynamic society. To achieve this need curriculum planning, curriculum replanning, additions and deletions of required clauses in the curriculum different ways or methods should be followed. One of such method discussed in the present research paper is inclusion of Case Studies in the syllabus of B.Sc. Physics degree offered by Shivaji University, Kolhapur.

Case studies typically document ‘what happened’ differently that do comparative studies. Case studies provide insight into mechanisms for the student’s achievement. Case studies can provide useful information about the selected topic which helps students to develop their understandings.

This research paper gives stress on the use of case studies in higher education hence its relation with curriculum.

Introduction
Nothing succeeds like success. In today's technosavy and highly competitive world a student has to withstand immense pressure in order to succeed. Only students with thorough understanding of the fundamental concepts and exceptional problem solving skills are able to succeed in their life and can achieve highest position in their carrier.

This is possible only when education system will provide knowledge and opportunities to the students through the curriculum. The curriculum reforms should bring a considerable positive change in the education system which can change future of every student.

Curriculum is a gate way to success. It builds skills that help students succeed in various fields in real life. Curriculum must fulfill some basic needs such as clearing concepts of every subject, should develop a logical approach, and should reduce stress level of students. Educationists who are dealing with curriculum reforms should take care of the fact that the basic knowledge of students enables them to gauge their understanding of concepts when they start solving problems. The key to solve problems which students face can be obtained with a good curriculum; hence curriculum reform plays an important role in the world of education.
Curriculum integration is always a challenging concept to define and examine both in research and classroom practice. Generally teachers tend to focus on curriculum integration simply as a mixing of different subject areas. For a teacher curriculum is very important term which is part and partial of a teacher’s job.

**Statement of the problem**
A gateway to case studies for higher education(Science) through Curriculum Reform

**Objectives**
- To introduce Case Studies in Higher Education as a teaching tool
- To determine the topics for Case studies from the syllabus of BSc Physics course, of Shivaji University, Kolhapur
- To know the advantages of Case studies as a study technique

**Curriculum**

**Definitions**
- Everything that goes on within the school, including extra-class activities, guidance and interpersonal relationship.
- Everything that is planned by school personnel.
- Curriculum is that which an individual learner experiences as a result of schooling.
- Curriculum is that which is taught in schools.
- Curriculum is a comprehensive plan for an Educational / Training programme course to offer new/improved manpower to fulfill the rising needs of a dynamic society.

**Types of curriculum**
Depending upon four families of learning theories curriculum can be divided into 4 kinds 1) Social 2) Information processing 3) Personalist and 4) Behavioral.
To form these different kinds of curriculums we should follow certain philosophy. For example - What is knowledge and understanding?
- What does it mean to learn?
- How do you know that learning has taken place?
- What is the ultimate purpose of education?
The answers to these basic questions will help in forming a particular curriculum. Also educationists consider different approaches to curriculum such as idealism, Realism, Perenialism, Essentialism Experimentalism, Existentialism, constructivism, Reconstructivism. With the help of such curriculum schools exist to sharpen the mind and intellectual process.
- Schools exist to reveal the order of the world and universe as students are taught factual information.
- Experimentalism believes that things are constantly changing, reality is what you experience. As a result, schools exist to discover and expand the society we live in.
- Curriculum should include projects and problem based learning as per John Dewey's thoughts.
- Curriculum should be based on postmodernism and Behaviorism as it tries to shape student's behavior in order to vein force proper learning and behavior, which is suggested by B.F. Skinners

**Curriculum planning**
While reforming curriculum we should know different levels of curriculum such as.
- primary
- Secondary - General academic, vocation
- Tertiary - General academic professional
- Curriculum planning for all these above given levels include different steps or stages.
While planning a curriculum philosophy plays very important role. Social forces, their needs, goals and objectives decide what type of treatment should be given to the knowledge for the sake of human development. Curriculum includes learning processes and instructions. Curriculum design allows to do analysis of social needs and deciding different objectives. By considering utilization of subject matter, specification of required time syllabus formulation takes place.

**Structure of curriculum**

Basic structure of curriculum includes introduction, scope, aims and goals, courses of studies, methodology, Evaluation scheme, outcome and world of work. Relating the units of the subject matter to learning resources and choosing the appropriate strategies curriculum development can be done.

**Implementation of Curriculum**

It is very important to divide the curriculum semester wise so that it should be fired which lessons should be included in semester 1 and how many should be in semester 2. Planning the lessons as per time table and providing learning resources, promoting classroom learning experiences curriculum implementation can be carried out. The success of implementation of curriculum depends upon students response to it. For this reason curriculum evaluation is required. It helps in checking the learning outcomes, to take review of curriculum, to improve or change it, to modify it finally. Evaluation is part of development rather than apart from it.

**Case studies and curriculum**

Case studies play an important role in Research and Education. In different courses of higher education such as MBA, Law etc. case studies are included in the syllabus and successfully implemented.

**Case study**

Relationship between curriculum focus on Inquiry and self directed learning. Inquiry is an important way to learn as students actively build understanding based on their experiences and the learning context. In the social sciences and life sciences, a case study is a research method involving an up-close, in-depth, and detailed examination of a subject of study (the case), as well as its related contextual conditions.
Case studies are in-depth investigations of a single person, group, event or community. Typically, data are gathered from a variety of sources and by using several different methods e.g. observations & interviews. A case study is an account of an activity, event or problem that contains a real or hypothetical situation and includes the complexities you would encounter in the workplace. Case studies are used to help you see how the complexities of real life influence decisions.

- A case study is a research methodology that has commonly used in social sciences.
- A case study is a research strategy and an empirical inquiry that investigates a phenomenon within its real-life context.
- Case studies are based on an in-depth investigation of a single individual, group or event to explore the causes of underlying principles.
- A case study is a descriptive and exploratory analysis of a person, group or event.
- A case study research can be single or multiple case studies, includes quantitative evidence, relies on multiple sources of evidence and benefits from the prior development of theoretical propositions.
- Case studies are analysis of persons, groups, events, decisions, periods, policies, institutions or other systems that are studied holistically by one or more methods.

**Curriculum**

Documents have an important influence on teaching to assess student’s progress by providing explicit criteria to assess what has been learned. If the curriculum framework is broad and requires teachers to construct their own understanding of content, methodology and assessment practices, it may not be promoting an understanding of the concept of inquiry and teaching in an inquiry based way.

**Why Case studies?**

Case studies typically document 'What happened' differently than do comparative studies. Case studies provide insight into mechanisms at play that are hidden from a comparison of student achievement. This is an important distinction for program evaluation and curriculum development, as the actual treatment in a large scale comparative study is often ill defined.

When the inquirer seeks answers to how or why questions, when the inquirer has little control over events being studied, when the object of study is contemporary phenomenon in a real life context, when boundaries between the phenomenon and the context are not clear, and when it is desirable to use multiple sources of evidence, then Case studies, can provide useful information along a number of dimensions that emanate from a careful description of the
connections among a curriculums program theory, its implementation theory and its actualization in particular settings. Case studies may provide additional specificity that is necessary and helpful to practitioners in assessing the probability of successful use in their settings.

- To be classified as a case study, the study had to examine curricula implementation of significant parts of the curricula materials (more than one unit) over a significant duration (more than one semester) and had to show evidence of systematic data collection and report on the effectiveness of the materials in the conclusions.
- Clearly a case cannot be repeated but the method of constructing a case can be repeated if conducted appropriately and if described sufficiently, and if not repeated precisely the differences can be noted and taken into account, thus a case must provide sufficient delineation of case events, behaviors, perceptions and the methods of data collection associated with them to permit another evaluator to design a parade evaluation in another setting and to conduct a related study.
- A case study should develop clear explanatory constructs that coherently link together.

How to make a case study
Here we consider the problem oriented method of a case study. Case studies can be an important methodology because they integrate a deeper, reflective philosophical and ethical understanding of organization.

Steps involved in the making of a case study
1) Selection of topic/problem for the case study
2) As per the importance and difficulty level of the topic teacher/case study writer can select the topic from the syllabus.
3) Case study may be in the form of descriptive information, or a story, drama, dialogs etc. Case study should provide more than sufficient information of the selected topic.
4) By giving prior instructions to the students case studies can be implemented in the classroom teaching.
5) For an individual student teacher can distribute a separate copy of a case study and ask them to read it carefully and answer the questions given in the set.
6) Students should write the answers in their own case study copy and at the end all case studies will be collected for checking by the teacher.
7) After correction of case studies teacher can arrange a discussion session with the students to discuss about answers and to solve doubts related to case study.

Definitely case study method creates a positive thinking and develops confidence into the students as it gives stress on self study method.

Advantages of Case studies
1) Case studies will challenge students to apply concepts and content of their text books and enable them to develop process skills, critical thinking, and analytical thinking.
2) Case studies will help to develop deductive and subjective reasoning.
3) The case method of teaching connects students with real world contexts and relates them with the environment.
4) The case studies when used in teaching can facilitate deeper conceptual learning that reinforces understanding of content knowledge.
5) This method develops decision making skills amongst students.
6) Teachers can put forward and give stress on self study technique for the students.
7) It develops reading as well as writing skills of all students.
8) Students will learn time management while solving case studies as fixed time interval will be given to solve a case study.

Introducing case studies in the curriculum of UG level courses-
The syllabus is defined as the documents that consist of topics or portion covered in a particular subject. A syllabus is considered as a guide to the teacher as well as to the students. It helps the students to know about the subject in detail, why it is a part of their course of study, The curriculum is defined as the guideline of the chapters and academic content covered by an educational system while undergoing a particular course or program expectations from students, chances of failure, etc. The curriculum is well planned, guided and designed by the government or the educational institution. When the topic of curriculum reform arises syllabus also should be taken care of. This can be explained with the following points:

1. The syllabus is described as the summary of the topics covered or units to be taught in the particular subject.
   Curriculum refers to the overall content, taught in an educational system or a course.

2. Curriculum and Syllabus are the terms of education, imparted to the students by teachers. It means the knowledge, skills or qualifications that are passed on from one generation to another. A subject syllabus is a unit of the curriculum. The two terms differ in a sense that curriculum is a combination of some factors which helps in the planning of an educational program, whereas a syllabus covers the portion of what topics should be taught in a particular subject.

As case studies help students to think critically, we should give opportunity to the students to follow such innovative study tools and technique.

As per physics syllabus of Batchelor of science degree concerned we find many such units where case studies definitely create interest and creativity among students.

For example: Syllabus of BSc. Physics of Shivaji University, Kolhapur.

In BSc. part I Physics syllabus the topics like rotational motion, Pendulum, Motion under central force, surface tension allow us to introduce a case study in the syllabus.

The following table gives a brief idea about the possibility of introducing case studies in the curriculum of BSc. degree in physics subject.

**Topics for case studies**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>BSc. I(^{st}) Year</th>
<th>BSc. II(^{nd}) Year</th>
<th>BSc. III(^{rd}) Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rotational motion</td>
<td>Elasticity</td>
<td>Black body radiation</td>
</tr>
<tr>
<td>2.</td>
<td>Pendulum</td>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Motion under central force</td>
<td>Sound</td>
<td>Nuclear Detectors</td>
</tr>
<tr>
<td>4.</td>
<td>Elasticity</td>
<td>Acoustics of building</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Surface Tension</td>
<td>Optical fibers</td>
<td>EM waves</td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td>Laser system</td>
<td>Cosmology</td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td>X-rays</td>
<td>Milky way</td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td>Nuclear energy</td>
<td>and solar system</td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td>Sources</td>
<td></td>
</tr>
</tbody>
</table>
Now a days due to fast growing scientific society we should make our students more practical oriented and able to apply their theoretical knowledge. Based on available time, weight age of marks importance of topic educators curriculum developers can decide number of case studies which can be included in the BSc. syllabus.

As a general discussion the main difference between Engineering students and BSc. students is that Engineering students have more practical knowledge as compare to BSc. students. By the method of case studies we can open a door of practical knowledge by different means to BSc. students. As per the nature and format of case studies we can use various strategies and motivate students to experience the knowledge, to research for gaining the result and concluding the problems discussed in the case studies.

**Conclusion**

Curriculum reform is a new step to update the education system of the nation. The implementation of the reformed curriculum should be proved successful and can be tested with the help of results obtained by the students.

Inclusion of case studies will definitely come up as a new step towards future education. Case studies will provide a new path for the students academic growth, as it leads to creative thinking and critical thinking. Students can learn science through many activities such as observe and discuss by using their brain power. Students should carry out experiments and observations by their own to understand the concepts in science. Case studies provide these opportunities to the students when they solve these and develop their knowledge to achieve excellence in academics.

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SURVEY ON EVALUATION OF STUDENT'S PERFORMANCE IN EDUCATIONAL DATA MINING

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Abstract:
Educational information mining is rising field that spotlights on breaking down educational information to create models for enhancing learning encounters and enhancing institutional viability. Expanding enthusiasm for information mining and educational frameworks, make educational information mining as another developing exploration group. Educational Data Mining intends to remove the concealed learning from expansive Educational databases with the utilization of procedures and apparatuses. Educational Data Mining grows new techniques to find information from Educational database and it is utilized for basic decision making in Educational framework. The knowledge is hidden among the Educational informational Sets and it is extractable through data mining techniques. It is essential to think about and dissect Educational information particularly understudies execution. Educational Data Mining (EDM) is the field of study relates about mining Educational information to discover intriguing examples and learning in Educational associations. This investigation is similarly worried about this subject, particularly, the understudies execution. This study investigates numerous components theoretically expected to influence student’s performance in higher education, and finds a subjective model which best classifies and predicts the student’s performance in light of related individual and phenomenal elements.

Index Terms—Education Data Mining; Students Performance; Patterns; Association rule;

Introduction
Educational Data Mining (EDM) is a most recent trend in the data mining and Knowledge Discovery in Databases (KDD) field which centers in mining helpful patterns and finding valuable learning from the Educational data frameworks, for example, admissions frameworks, registration frameworks, course administration System and some other frameworks managing students at various levels of education, from schools, to universities and colleges. Analysts in this field concentrate on finding valuable learning to enable the Educational foundations to deal with their students better. Dissecting students data and information to characterize students, or to make decision trees or association rules, to settle on better decisions or to improve student’s performance is a fascinating field of research, which for the most part concentrates on investigating and understanding students Educational data that their Educational performance, and produces particular rules, characterizations, and predictions to help students in their future Educational performance overseen.

This technique used to concentrate on outlining a cloud capacity framework for power, security, and usefulness. Information strength is a noteworthy commitment for capacity frameworks. There are numerous recommendations of putting away information over capacity servers.

Educational data mining (EDM) is a rising interdisciplinary analysis space that uses procedure approaches to explore data originating from academic contexts. To date, there are several applications and tasks in educational
environments that are resolved through data mining. Baker [3] suggests four key areas of application for EDM: improving student models, improving domain models, studying the education support provided by learning software, and research into learning and learners; and five approaches/methods: prediction, clustering, relationship mining, distillation of data for human judgment, and discovery with models. During this study, we tend to use a relationship mining technique for finding 2 important issues in education: distinguishing course trajectories students desire earn an instructional degree, and finding specific courses that may influence students to dropout, migrate or negatively shape their career path.

Classification is the most common place and best data technique used to group and predict values. Educational Data Mining (EDM) is no exemption of this reality, consequently, it is utilized as a part of research to investigate gathered students information through an overview, and give orders in view of the collected data to anticipate and classify student’s performance in their forthcoming semester. The goal is to recognize relations amongst student’s personal and social elements, and their scholastic performance. This newfound learning can help students and teachers in doing better upgraded Educational quality, by recognizing conceivable underperformers toward the start of the semester/year, and apply more consideration regarding them to enable them in their training to process and improve marks.

There are numerous distinctive information mining strategies and methods utilized as a part of Knowledge Discovery and data mining. Each strategy or procedure has its preferences and disservices. Consequently, this research will utilize different information mining techniques to confirm and analyze the results. Toward the end, the best result could be selected in terms of accuracy and precision.

**Existing Research In Edm**

Data mining in advanced education is a current research field and this area of research is gaining up popularity in light of its possibilities to Educational institutes. Data Mining can be utilized as a part of Educational field to improve our comprehension of learning procedure to concentrate on recognizing, removing and assessing factors identified with the learning procedure of students as depicted by Alaa el-Halees [6]. Mining in Educational environment is called Educational Data Mining.

1. “Mining Educational Data to Analyze Students Performance” [1] : A research on a group of 50 students registered in a particular course program over a time of 4 years (2007-2010), with various performance pointers, including Previous Semester Marks, Class Test Grades, Seminar Performance, Assignments, General Proficiency, Attendance, Lab Work, and End Semester Marks. They utilized ID3 decision tree algorithm to develop a decision tree, and if-then principles which will in the end help the teachers and the students to better comprehend and foresee student’s performance toward the finish of the semester. Moreover, they characterized their target of this investigation as: This examination will likewise work to distinguish those students which required extraordinary consideration regarding reduce fail ration and making correct action for the following semester examination [1].
Researcher have chosen ID3 decision tree as their data mining strategy to examine the student’s performance in the chose course program; since it is a basic decision tree learning algorithm.

2. “A prediction for Student's Performance Using Classification Method “[2] : A research that essentially concentrates on producing classification rules and foreseeing student’s performance in a chosen course program based on already recorded students behavior and activities. Abeer and Elaraby [2] handled and analyzed already enlisted students data in a particular course program crosswise over 6 years (2005– 10), with different attributes gathered from the college database. Therefore, this examination could anticipate, to a specific degree, the student’s last grades in the chosen course program, and in addition, help the student's to enhance the student's performance, to recognize those students which required extraordinary consideration reducing failing ration and taking appropriate action [2].

3. “A prediction of performer or underperformer using classification” [3]: Data mining research utilizing Naïve Bayes classification to analyze, classify, and predict students as performers or underperformers. Naïve Bayes arrangement is a straightforward probability classification strategy, which accept that every single given attributes in a dataset is independent from each other, henceforth the name Naïve. Pandey and Pal [3] led this research on a sample data of students registered in a Post Graduate Diploma in Computer Applications (PGDCA) in Dr. R. M. L. Awadh University, Faizabad, India. The research could classify and predict to a specific degree the student’s grades in their up and coming year, in light of their evaluations in the earlier year. Their findings can be utilized to help students in their future education from multiple points of view.

“A Comparative Study for Predicting Students Performance”[5] : A comparative research to test different decision tree algorithms on an Educational dataset to classify the Educational performance of students. The investigation for the most part concentrates on choosing the best decision tree algorithms from among for the most part utilized decision tree algorithms, and give a benchmark to every single one of them. Yadav, Bhardwaj, and Pal [5] discovered that the CART (Classification and Regression Tree) decision tree classification technique worked better on the tried dataset, which was chosen based on produced accuracy and precision utilizing 10-fold cross validations. This investigation displayed a decent routine with regards to recognizing the best classification algorithm method for a chosen dataset; that is by trying numerous algorithms and strategies before deciding which one will inevitably work better for the dataset in hand.

5.“Mining Course Trajectories of Successful and Failure Students: A Case Study” [7] : In this research successive pattern mining is utilized to take care of two vital issues in education: identifying course trajectories students take to earn an academic degree and finding particular courses which may impact students likelihood to divert from their original academic and profession. For this study, students in software engineering and their course enlistment information are broke down, which was extricated from the Banner system at public university. The preliminary results of the contextual analysis shows the
usefulness of sequential pattern mining in solving problems that are of interest to students, educators and administrators in post-secondary schools.

6. “A review on predicting student’s performance using data mining techniques” [8]: Predicting student’s performance is for the most part valuable to help the instructors and students enhancing their learning and educating process. This study has evaluated past examinations on predicting student’s performance with different analytical strategies. The greater part of the analysts have utilized cumulative grade point average (CGPA) and internal assessment as data sets. While for prediction procedures, the classification strategy is frequently utilized as a part of Educational data mining zone. Under the classification systems, Neural Network and Decision Tree are the two strategies very utilized by the scientists for predicting student’s performance.

“Data Mining Applications: A Comparative Study for Predicting Student’s Performance,” [11]: Yadav, Bhardwaj, and Pal [5] conducted a comparative research to test multiple decision tree algorithms on an educational dataset to classify the educational performance of students. The study mainly focuses on selecting the best decision tree algorithm from among mostly used decision tree algorithms, and provide a benchmark to each one of them. Yadav, Bhardwaj, and Pal [5] found out that the CART (Classification and Regression Tree) decision tree classification method worked better on the tested dataset, which was selected based on the produced accuracy and precision using 10-fold cross validations. This study presented a good practice of identifying the best classification algorithm technique for a selected dataset; that is by testing multiple algorithms and techniques before deciding which one will eventually work better for the dataset in hand. Hence, it is highly advisable to test the dataset with multiple classifiers first, then choose the most accurate and precise one in order to decide the best classification method for any dataset.

8. “A Comparison Between Students Behavior and Performance During Regular and Intensive Control Systems Courses with and without Laboratory Time” [12]: This research focus on Intensive engineering courses are those taught with an accelerated format that have the same objectives than regular one-semester engineering courses. This work is based on Control Systems courses, and compares some features of both kinds of courses. More than ten regular courses are compared with two intensive ones. In addition, we also consider formats with and without laboratory time. The results presented are based on the actual grades of the students and not on their perception of the class. For the context of this research, a regular course is defined as in-person class that takes 16 weeks plus a final exam. An intensive course is also in-person and takes 16 week-days (a little bit longer than 3 weeks) also plus a final exam. The intensity of the course is related with if it has or not laboratory time. In the case the course has laboratory time, the students will have 2 more hours per week in a regular course, or per day in an intensive one. The investigation showing that in the classroom during an intensive course the students’ commitment and motivation is very evident during the entire time, which is hardly the case in a regular course. The difference in students behavior during the two types of courses is clear, even for the percentage of attendance, most of the class in intensive courses did not
miss one single class, everyone attended to all the laboratory sessions, nobody miss an exam, and so on. Also, the average grade was higher for the intensive class, in almost all the scenarios (pop quizzes, exams and labs). The not so good homework grades may be due to the fact that the students did not have much time at home during the weeks the course last. Finally, the laboratory time is used more efficiently than in regular courses; so much that during the intensive class, having the same lab time, students could go through ten different assessments, while in the regular course they hardly finish eight of them.

9. “Student Performance Prediction via Online Learning Behavior Analytics” [13]: Student performance prediction is carried out under the premise of online learning behavior analytics, before that, select which learning behavior indicators for analyzing is critical. The research’s object is online learning behavior, occurred not only in MOOC platform like Coursera, Udacity, edx, but also other online learning platform, such as NetEase cloud classroom, Tencent classroom, a variety of educational cloud platform. Online learning behavior consists of one major element: multi dimension, the so-called multi dimension refers to the diversity of online learning behavior. In this investigation, researcher have constructed 19 indicators, completion of resource watch is computed by the total time of learning resource (recommended time) divided by the time student spend on learning resource, reflecting the completion of learning. Density of resource watch refers to number of time of resource watch divided by the time difference between last view resource and first view, reflecting students’ concentration. Density of post is calculated by the number of test post divided by the time difference between last test submission and the first submission, reflecting students’ positivity. For this research they collected related data generated from “Education Cloud Computing” course, which offered from CCNU’s Hstar teaching platform, used Logistic Regression to predict student performance.

10. “Identifying Factors That Influence Student Failure Rate using Exhaustive CHAID (Chi-Square Automatic Interaction Detection)[13]: Phase for new students that aims to allow students to have general and the same basic knowledge before continuing majors courses in the following year known in Indonesia as TPB (Tahap Persiapan Bersama). The passed rates of TPB are still below normal that causing the number of students pending the period of study in the next year. Therefore, researchers tried to find out way that will help the stakeholders in the decision to reduce the impact by identifying factors that influence student failure in the process of TPB. In this research, researcher had implemented with Exhaustive CHAID method using 6 datasets of courses that have a different number of records and variables. Then from each dataset that produces optimal accuracy will be identified what factors that affecting student failure in TPB.

Challenges In Edm
The research trends on EDM since the year 1998 to 2012 and found that maximum research focuses were on academic objectives. The other issues are:
1) Educational data is incremental in nature: Due to the exponential growth of data, maintaining the data in data warehouse is difficult. To monitor the operational data sources, infer the student interest, intentions and its impact in a particular institution is the main issue. Another issue is the alignment and translation of the incremental educational data. It should focus on appropriating time, context and its sequence. Optimal utilization of computing and human resources is another issue of incremental.

2) Lack of Data Interoperability: Scalable Data management has become critical considering wide range of storage locations, data platform heterogeneity and a plethora of social networking sites. E.g. : Metadata Schema Registry is a tool to enhance Metadata interoperability. So there is a need to design a model to classify/cluster the data or find relationships.

3) Possibility of Uncertainty: Due to the presence of uncertain errors, no model can predict hundred percent accurate results in terms of student modeling or overall academic planning.

4) Research Expertise Relation between Student-Teacher: In most of the higher Educational institutions (e.g. Engineering Institutions) final year students have a compulsory project work which are a research work based on their area of interest. Generally Supervisors are assigned as per availability and area of expertise in the respective department. But still it is not possible to assign all the students–supervisor with similar area of interest hence the result of the project is not applicable to real scenarios. There is need to find the relation between areas of interest, students' interest, applicability of the project/research and mining cross faculty interest. It will be beneficial to introduce using Association Mining to optimize this issue [5].

**Conclusion**

EDM turns into the present most essential quality task in for attaining student's performance. Existing research had clarifying the assessment of student’s scholarly activity for his performance assessment. Having distinctive methods for learning things by understudy, it is additionally required to observe their social and everyday life action. The principle concentrate if this examination is on the understudy's every day wonders which they are doing in accessible time. The research technique utilized here will join a wide range of branches in the scholastic field subsequently every understudy in the distinctive field will be assessed in same way and thus it will give correct set of metric to assess student’s performance henceforth change in student’s grades.

**Acknowledgement**

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EFFECTIVE USE OF ICT FOR TEACHING LEARNING PROCESS

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Abstract:
One of the many challenges facing developing countries today is that of preparing their societies and governments for globalization and the information and communication revolution. Policy-makers, educationists, non-governmental organizations, academics, and ordinary citizens are increasingly concerned with the need to make their societies competitive in the emergent information economy. More research needs to be conducted to understand the complex links between ICTs, learning, and achievement. Many teachers are reluctant to use ICTs, especially computers and the internet. Some of the reasons for this reluctance include poor software design, skepticism about the effectiveness of computers in improving learning outcomes, lack of administrative support, increased time and effort needed to learn the technology and how to use it for teaching. In the process of bringing ICTs enabled education to the rural masses, there are many issues and challenges facing the rural education centers. This paper is to study importance and use of ICT in Teaching Learning Process.

Keywords: ICT, Teaching, Learning, education, e-Learning.

Introduction:
In the age of innovation and productivity, knowledge and technology has come to occupy a center stage in national and international policy debates. Nations are focusing on ways to improve knowledge generation and sharing; and creation and flow of new technologies. In this scenario, it has been duly recognized that implementation and adoption of ICT in a nation at all levels, would certainly contribute and enhance its productivity, efficiency and growth. ICT is inevitable for all sectors and all segments across regions. ICTs offer the potential to share information across traditional barriers, to give a voice to traditionally unheard peoples, to provide valuable information that enhances economic, health and educational activities. The role of ICT cannot be undermined keeping in view its pertinent uses. ICT is useful in education; for digital literacy and developing all kinds of resources; in infrastructure development; in logistics management; in healthcare; for livelihood generation and empowerment of masses; for e-governance; in administration and finance; specialized business and industrial uses; agricultural uses; in research and development and for economic growth and poverty alleviation. ICT has a direct role to play in the education sector. It can bring many benefits to schools, educational institutions as well as to the community. ICT in education add to knowledge production, information and communication sharing among the education community.

The National Policy on Information and Communication Technology (ICT) in School Education “aims at preparing youth to participate creatively in the establishment, sustenance and growth of a knowledge society leading to all round socio-economic development of the nation and global competitiveness”. In India, ICTs was launched in schools in December 2004 and revised in 2010 to provide opportunities to secondary stage students for building upon their capacity on ICT skills and direct them towards computer aided learning process. ICT in schools have been included under the Rashtriya Madhyamik Shiksha Abhiyan (RMSA). The scheme is a major catalyst to bridge the digital divide amongst students of various socio-economic and other geographical barriers.

Research shows that ICT plays a leading role in promoting the economy of a country. The role of ICT is multidimensional. Although ICT infrastructure by itself may not contribute to a country’s economy, it is believed that it does facilitate overall economic growth. ICT can strengthen the economy in specific sectors or in specific processes that lead to economic growth. However, ICT is simply a tool for achieving higher economic growth and not an end in itself. Academicians, industrialists and policy makers tend to accept a direct correlation between use of ICT and positive macroeconomic growth. ICT has a vital role in connecting the rural economy to the outside
world for exchange of information, a basic necessity for economic development. Effective use of ICT can demolish geographical boundaries and can bring rural communities closer to global economic systems.

**Objectives of ICT implementation in education:**

1. To implement the principle of life-long learning / education.
2. To increase a variety of educational services and medium / method.
3. To promote equal opportunities to obtain education and information.
4. To develop a system of collecting and disseminating educational information.
5. To promote technology literacy of all citizens, especially for students.
6. To develop distance education with national contents.
7. To promote the culture of learning at school (development of learning skills, expansion of optional education, open source of education, etc.)
8. To promote the culture of learning at school (development of learning skills, expansion of optional education, open source of education, etc.)

**Can the use of ICTs help improve the quality of education?**

Improving the quality of education and training is a critical issue, particularly at a time of educational expansion. ICTs can enhance the quality of education in several ways:

1. by increasing learner motivation and engagement,
2. by facilitating the acquisition of basic skills, and
3. by enhancing teacher training.

ICTs are also transformational tools which when used appropriately, can promote the shift to a learner-centered environment.

**Need For ICT in Education:**

ICT is the convergence of computer, communication and content technologies. It has attracted the attention of academia, business, government and communities to use it for innovative profitable propositions. In order to compete in a global competitive environment, a highly skilled and educated workforce with aptitude and skill sets in application of ICT is inevitable for every nation. ICTs are a potentially powerful tool for extending educational opportunities, both formal and non-formal, to previously underserved scattered and rural populations, groups traditionally excluded from education due to cultural or social reasons such as ethnic minorities, girls and women, persons with disabilities, children with special needs and the elderly, as well as all others who for reasons of cost or because of time constraints are unable to enroll on campus. Use of ICT will catalyze the cause and achieve the goals of inclusive education. ICTs have the potential to innovate, accelerate, enrich, and deepen skills, to motivate and engage students, to help relate school experience to work practices, create economic viability for tomorrow's workers, as well as strengthening teaching and helping schools change.

**Benefits of ICT in education are:**

1. It has the potential to improve education system of the nation
2. It can transform the nature and quality of education as a whole
3. It helps to enhance the quality of education by facilitating new forms of interaction between students, teachers, education employees and the community
4. It acts as and provides students and teachers with new tools that enable improved learning and teaching and adds to skill formation
5. It improves the learning process through the provision of more interactive educational materials that increase learner motivation and facilitate the easy acquisition of basic skills
6. It makes education more accessible for all, bringing education to the doorstep of children living in remote rural locations by means of enabling distance learning
7. It provides access to a vast treasure of educational resources and content for improving literacy
8. It leads to integration of technologies with traditional educational activities although it can never replace the conventional teacher-student relationship that is so crucial to the development process
9. It offers more challenging and engaging learning environment for students of all ages
10. It enables a knowledge network for students
11. It provides greater flexibility and individualized learning facilities to learners
12. It enhances the overall teaching-learning process
13. It avails high speed delivery of uniform quality content at reduced cost bringing the cost of education from very high to very low
14. It can serve multiple teaching functions and diverse audiences

Nevertheless, technology is only a tool and the success of ICTs in enhancing the delivery of quality education to the needy, without widening the gap, will depend largely on policy level interventions that are directed toward how ICTs must be deployed in school education. In India, various ICTs have been employed over the years to promote primary and secondary education in schools. However, there have been enormous geographic and demographic disparities in their use. Some states and regions in the country currently have an enabling environment in place that allows for a greater use of ICT for education, whereas others lack such an environment.

Challenges in Implementation of ICT Enabled Education in Rural India:
Although ICT has the potential to improve education system of a country to a great extent, yet it is not the case in the developing countries. There are multiple issues and challenges confronting the implementation of ICT education in schools and educational institutions in these countries and the problems are much more magnified in case of schools located in remote villages and rural areas. For rural schools in specific, the introduction of ICT faces hindrances in the form of internal and external barriers.

1. Lack of trained teachers
2. Unfavorable organizational culture and poor attitude and beliefs
3. Shortage of time
4. Issues of maintenance and upgrading of equipment
5. Insufficient funds
6. Challenge of language and content
7. Shortage of equipment
8. Unreliability of equipment
9. Lack of technical support
10. Resource related issues and internet

Conclusion and Suggestions:
Revolution in information and communication technologies has reduced national boundaries to meaningless lines drawn on maps. In this scenario, education has been identified as one of the services which need to be opened up for free flow of trade between countries. India is developing as a knowledge economy and it cannot function without the support of ICT. The gap between demand and supply of education has necessitated the government and institutions to formulate policies for more beneficial use of ICT. In order to bridge the gap, it is necessary to evolve cooperation between public and private stakeholders. There is a need to focus on improving four aspects of ICT - access, usage, economic impact and social impact. The study makes the following suggestions for improving and enabling ICT education in rural India:
To provide need-based ICT Education in rural areas specific to their skill sets Provision of broad-based formal education of ICT. To create awareness on ICT Education
Give incentives to firms and individuals for encouraging involvement in training in ICT. Develop supportive infrastructure facilities such as electricity, internet, etc. Government should actively promote the usage of alternate sources of power to ensure a steady power supply to schools in rural areas.

Computer recycling can be an ecologically sound alternative to the problem of computer shortage.

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USER IDENTIFICATION OVER DIGITAL SOCIAL NETWORK USING FINGERPRINT AUTHENTICATION ABSTRACT

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Abstract:

Today, the entire world of web communication is governed by Internet. Through internet data is transformed digitally. The main benefit of transferring the information digitally is that an authenticity is managed between both the sides (Sender & Receiver) for making a reliable transformation over the internet. The main role of security is concerned through this type of web communication. Now social networking sites are playing a vital role in our life for sharing our live events through different medias such as audios, Images and Video files etc. But the problem which is arise during the communication on social sites is: a pretender can easily access other’s account information like picture or any other detail because on the social networking sites it is easy to copy. Now days, the question arises: "how to verify the user’s real unique digital identity on the social network?"

In this research, the measure concern is about the security over the social networking sites. The proposed research work is the solution that can secure the privacy of a Digital Identity with the use of Digital Watermarking Technique. This method works on the concept of Digital Fingerprint. Where for watermark image Digital Fingerprint is used which is embedded in the original image using Watermarking technique discrete wavelet transform (DWT).

Keywords: Social Identity, Social Networking sites (SNS), Digital communication, Digital Fingerprint Watermarking, Color Image Digital Watermarking, Discrete wavelet transform (DWT), etc.

Introduction

Now in the present world Communication is being held through web digitally which is a generation of Digital Information Technology. Since 2000, human dependency on computer for socializing purpose is growing rapidly. The improvement of innovative technologies focuses resting on the accessibility of digital in sequence toward the spectators. The idea of release resource is suitable through the inventors of information knowledge; and so, the requirement for digital information has furthermore increased. The concept of release resource not only provides liberty for persons to modify the data according in the direction of their own needs, although it in addition opens the track for the inappropriate use of freedom.

If a person receives a exclusive ID by the unique ID certificate (UID) as a citizen of a country, then the question comes: “Why it cannot be issued for being the user of any social networking system?” But, it will not be acceptable for the reason that, social networking is seen as components of living where user is capable of liberally contribute to their thoughts. The main purpose of this research investigate document is to offer universal understanding regarding the significance of digital uniqueness on public networking systems. [1]

Uniqueness Of User

A. Digital Identity

For identifying an owner digitally a Digital identity is provided. Mainly, data on mobile devices or computers can be shared digitally through the network, so digital information is required for finding the owners of digital content.

On the digital network, the digital identification network is located by the user’s location and activity. [2]

B. Social Identity

It is the identity of human beings on the social networks. Social networking manages communication either digitally or manually. Users require social identities to present some of their followers known as; people belonging to their
communities need an identity (or designation). The connectivity of users to their social group is called social networking. Members of social networking can socially work in partnership on an event in their society. [3]

C. fulfilled Points of Discussion
Digital identification uses only to represent a unit's digital presence activity, it is not related to personal user personal information.
Social Identity is associated not only with the individual’s information but also the information about user’s public relationships.
Various social identities communicate to enduring social categories, like as ethnicities, religions, or nationalities.
In existing scenario both, the user gets recognition to attend anything, but there is no organization to verify the uniqueness of the any human.
Both i.e. Digital Identity & Social Identity are replaced by new keyword which is ‘Digital Social Identity’. key feature of this research, as the objective is to present major problems of Social Networking Users with their privacy.

Digital Social Networking
Working Concept of any social networking is to offer a public stand for everyone to deal out their thoughts throughout the use of social media. It adheres to the open impression, where the users can use their appliance and contribute to their data lacking cost and donation. Its general directions given through several public networking web site are:

Groupware
Groupware is the prime concept of digital social networking. This is an essential thing of several social networks that compose network within organization. Essentially, a social network, itself is a compilation of several personal organization. These systems are generated through a web application and a web tools. In further terminology, using groupware, groups are developed well maintained. Groupware are categorized in two categories: Unprotected Groupware: It’s a oldish process of constructinga group and then inviting your feinds to join the group. These kind of group facilitates substance sharing,with some limitations, where, all the public information is able to be seen to all the associated users.

Protected Groupware:
This is an advanced groupware that facilitates creating individual groups and restricting accessibility for human being. This kind of groupware offers progress distribution facilities with describing content as ridiculous, but still requires various laws of those policies that are necessary to offer security measures & assurances.

Active Wall (or Sharing Wall)
These SNS maintain a proposal for the respective user in order that users can convey our opinion by means of their supporters (or joined group). Move ahead digital societal networking site helps the customer detect their digital substance such as World Wide Web documents, picture, audio video files, etc. An Active Wall Group member is a means of communication where the sharing Wall essentially reflects the in particular action of several users on the social network.

Like and Comment
Many people use social networking sites. People on social networks can explicit their thoughts on the data shared by two opinions: first, user can like or dislike digital information & data by entering the counter button. Second, user can read & write their thoughts as a comment on the available text box. Secure sharing prevents comments from unwanted users.

Cloud Storage (User Space)
Social Networking is a public stand for sharing any kind of information on the Internet. Many servers in the Internet are included on the Internet servers on the Internet share their resources in the form of storage, computing, such as cloud computing storage systems. The principal use of cloud systems or computing is to take advantage of accepted
space for data storage. This basic principle of cloud computing has been implemented on the social network; it hand over cloud storage and an interface that interacts through internet. Social network users can update, view, edit, download, and delete your private documents anytime, anywhere, using a user.

**Chatting and Messaging**
Chatting and Messaging both are text-based communication that was started with the chatting apps now ends by identifying the IP addresses on both the ends by converting it from the IP to the IP. It is a real-time communication, earlier there was no intermediate system to store messages during chat; it was only user-oriented, where the user has to store chat history for different files himself. Nowadays, the SNS provide a high level, chat which includes with the performance of the message. Each user can get their self identification just as a unique user ID; this identity can only identify the presence of a user on SN system. Hence, the chat between the users take place through the ID, this is known as dynamic conversion. Willingly, users can create a message while telling their unique id and this is known as a static conversion. Currently popular SN combines both theories in a single zone. Today, it can be further store like a dynamic chat messages.

**Video Calling**
This facility creates a digital public network for entire transmission device. Due to lack of options for video calling users, there may be switches on other tools. In it, to use the services they need to create another account. Most of today's famous SNS offer a video calling apps and tool. This huge benefit of public network is to maintain a forum for connecting with everyone.

**Various Security Issues For Identity**
The security of any deal on the Internet is mandatory; the main approach behind preservation is verification with the use of “username "and" password ". This is the primary tool for verification, but for some time, exclusive digital structure is required on a special network of authentication or verification. Before discussing security issues about public network, one should know "What is required for digital social identity?" [3]

**What is the Importance of Digital Social Identity?**
The same as mentioned on top of, societal identification is defined by social identity on social networking websites. It’s a grouping of digital as well as public identification. Already a creator has created a login account on the digital SNS, this website requires little private information about user name, user email-id, phone number, and location etc., as it is a fixed step to creating an account. It is fine when someone shares their personal information with the social networking site to create an account, but how to confirm about one’s security and that, this information will not be shared with others. And if someone can see the personal information of a person, then it nullifies the idea of unique identity, as anyone can create an account using the personal information of others on the Internet. Given the individual specificity of any user on the social network, this is a big problem. This is the right time, when the IT industry should meeting point on digital social uniqueness. A solution to the problem is a personal factor that can provide personal information to the individual with specific information toward the abuser and it must not be worth sharing. Research implementation gives the digital fingerprint result for digital unique identification with personal information. [3] [4] [5]

**Privacy Issues**
- Any person can easily create duplicity account.
- User’s Profile and Personal Information can be easily hacked.
- Fake users show off like the real abuser with using personal data and image. Nobody be capable to blame any person.
- There is no pleas registration system, condition somebody wishes to building block your counterfeit accounts.
Security Methods

Security is a progression for authentication that is used to verify identity. Digitalized certification contains recognition procedure that can detect the source of information. In case of digital data communiqué, there are two accepted techniques in digitalize authentication:

A. Digital Signature

It is a statistical procedure that validates the dependability and integrity of a message, software or digital document. This is basically a digital signature which secretly authenticates the information sender. Digital signatures are working on public key cryptography. Encryption is used on the sender to mark the significance through the personal explanation. And by the side i.e. the recipient is capable to confirm the autograph with the sender's open key.

B. Digital Certificate

It is a unique digital document of the server's data that identifies the server's certified entity. Each organization wants to share data from a main -computer, and then it will ask the server for the first certificate. The server will issue the certificate, and then the entity will confirm the certificate. If verification is a success, then the unit can share information with the server without any hazard. Digital authentication system is a basic requirement; therefore new laws must be replaced by providing security measures and assurances.

C. Digital Watermarking

Watermark is a very old technique used for copyright infringement and bank note authentication. But now, any digital watermarking technique can be used to mark on any digital signals like as audio frame, pictures, videos, and text or multidimensional models. Explanation of digital watermarking:

"Digital watermarking approach achieved universally used to point any information within digital media for the authentication of ownership”. Or

"Digital watermarking approach used for copyright protection to hidden the user data within digital multimedia.”

Watermark is a digital identity technique that holds the same information as the user. Digital watermarks can be used to verify the authenticity or integrity of the media. It is believed that the theory of digital watermarking allows information to be influenced but does not allow the abusive quality of the data. [7]

D. Fingerprint as Watermark

The essential idea of this follow a line of investigation is to emphasize upon the uses fingerprint picture as watermark image. Fingerprint be use in the direction of recognize a human being specially. Therefore, a digital fingerprint image can be used as a watermark. The same as we discussed on top of, digital fingerprinting is an imperative process that is capable of simply be use to recognize individual identities, although it must exist hidden. Unseen or hidden watermarking is obtained by discrete wavelet transform [8]

The functionality of DWT techniques has more robust and secure digital watermarking. Image Watermarking of gray scale image is researched by many organizations but watermarking of coloured image is still required to be deep research for good quality image. DWT has its advantage of robust watermarking. DWT techniques are also very useful for coloured image because in the present scenario, colour image is really simple headed for imprison, reproduction, edit, and allocation. Therefore, this investigates generally concentrate on top of most excellent copyright protection and authentication using new feature of Digital Watermarking [12].

Figure1, show a building block diagram of fundamental move toward to using fingerprint in the form of watermarks is to display the algorithm and their steps embedded watermark in a colorful image using the DWT (discrete wavelet transforms) middle block called 'watermark editing' Where IDWT (Inverted Wavelength Transform) is used to reproduce the image of the profile from frequency coefficient Entrance is used.[9].Two-dimensional Discrete Fourier or Cosine Transform have been represented in the advance Discrete Transform function like F[u, v], which
is a function of fully spatial frequency \( u \) or \( v \). No straight information regarding pixel or spatial variables is been given. likewise, Discrete Wavelet Transformation use additional types of necessary functions i.e. Daubchies, Haar. This original work is furthermore identified like Mother Wavelet. In this investigation, Haar is use like a Mother Wavelet. [10][11]

![Block Diagram of Color Image Digital Watermarking selecting Fingerprint Image as Watermark](image1.png)

**Experimental And Results**

This research also includes the implementation of proposed schema on MATLAB. The number of images was used as a practical image and finally measured the corresponding affection of the image.

**A. Select profile Input Image:**

To test the efficiency of algorithm, this experiment has been conducted on a color image 'Rangoli.jpg' are used

**B. Select Fingerprint Watermark Image:**

![Original Input Image for watermarking: Rangoli.jpg](image2.png) ![Fingerprint Watermark](image3.png)

![Output: Profile Image](output.png)

![Watermark Embedding](watermark.png)
C. Watermarked Profile Picture Image:

![Image: W_Rangoli.jpg]

D. Recovered Watermark:

![Image: RW_Fingerprint.jpg]

E. Image Quality and Similarity Measurement:

In the Digital Watermarking PSNR Value decides the Image quality. When PSNR value comes under the range 30 to 50, Good quality of image is creating. Other than PSNR, Correlation coefficient is also used for calculating the image quality. Correlation coefficient finds out the similarity between original image and watermarked image, which would be within 0 to 1 for determining the similarity between the images.

<table>
<thead>
<tr>
<th>TABLE I. IMAGE QUALITY TESTING</th>
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<tr>
<td>Image Type</td>
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<tr>
<td>Profile Picture</td>
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<td>Watermark Image</td>
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Conclusion
Each and Every person around the world prefers having their own unique identity for use on any social network. Unique presence provides them the confidence to distribute their individuality information independently without accommodation on some protection matter. In this research paper fingerprint watermarking is performed by using DWT approach. The reviewed research about the fingerprint watermarking is very much appreciable thus many research articles found on this topic. The watermarking is an only technique to avoid the misuse of image documents. DWT has advantage of robust watermarking. The aim of this research is to emphasize that unique identity should be provided to individuals for their use on the digital social networks. This research is focused on color image digital watermarking. In this research process conclusion that are come out from the experiment is that the watermarked image is identical and after recovery we can easily identify the watermarking.

The Working process of this following research of investigation concludes that if the social networking websites start providing an individual’s identity for use on any digital social networks, it can easily take access on the following:

- It easily controls the privacy settings of individual user’s.
- It protected the virtual identities of user on different social network site.
- It can finally manage the unfaithfulness of any data.
- It can attain complete confidence of individual’s user.
- Its Unique Identification may provide single integrated environment.
- It will facilitate user to find out their elderly friends.
- Fraud can easily find out.

Fake users will not be able to generate several duplicity accounts, for the reason that it will require exceptional fingerprint picture for identification and verification

References
STRENGTHENING TEACHING AND LEARNING THROUGH ICT™

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Introduction:
Information and communication technology (ICT) is a force that has changed many aspects of the way we live. If one to compare such fields as medicine, tourism, travel business, law, banking, engineering and architecture, the impact of ICT across the past two or three decades has been enormous. The way these fields operate today is vastly different from the ways they operated in the past. ICT’s has the capacity to provide support for customized educational programs and to meet the needs of individual learners. Information and communication technology (ICT) refers to a technology employed in form of tools, equipment and application support which helps in the collections storage, retrieval, use, transmission, manipulation and dissemination of information as accurately and efficiently as possible for the purpose of enriching the knowledge and develop communication, decision making as well as problem for solving ability of the user. ICT’s provide students with self paced, self directed, problem based or constructivist learning experiences, as well as it helps teachers in their understanding of content and processes. Today, ICTs are used attractive ways that may better assess the depth of On-line education, establishing virtual classrooms, thus, harnessing its power as an effective tool and media of formal, informal and non formal education.

Information Leteracy
Another way in which emerging ICTs are impacting on the content of education curricula stems from the ways in which are dominating so much of contemporary life and work. The drives to promote such development from general moves among institution to ensure their graduates demonstrate not only skills and knowledge in their subject domains but also general attributes and generic skills. Traditionally generic skills have involved such capabilities as ability to reason formally, to solve problems, to communicate effectively, to be able to negotiate outcomes, to manage time, project management, and collaboration and teamwork skills. The growing use of ICTs as tools of everyday life have seen the pool of generic skills expanded in recent year to include information literacy and it is highly probable that future developments and technology applications will see this set of skills growing even more.

Impact Of Ict On What Is Learned
Conventional teaching has emphasized content. For many years course have been written around textbooks. Teachers have taught lectures and presentations interspersed with tutorials and learning activities designed to consolidate and rehearse the content. Contemporary settings are now favoring curricula that promote competency and performance. Curricula are starting to emphasize capabilities and to be concerned more with how the information will be used than with what the information is.

Competency And Performance Based Curricula:
The moves to competency and performance–based curricula are will supported and encouraged by emerging instructional technologies. Such curricula tend to require:
- Access to a variety of information sources;
- Access to a variety of information forms and types;
- Students–centered learning settings based on information access and inquiry;
- Learning environment centered, problem –centered and inquiry-based activities; Authentic settings and examples; and
- Teachers as coaches and mentors rather than content experts.
Contemporary ICTs are able to provide strong support for all these requirements and there are now many outstanding examples of world class settings for competency and performance –based curricula that make sound use of the affordances of these technologies. For many years, teachers wishing to adopt such curricula have been limited by their resources and tools but with the proliferation and widespread availability of contemporary ICTs many restrictions and impediments of the past have been removed. New technologies will continue to drive these forms of learning further. As students and Teachers gain access to higher bandwidths, more direct forms of communication and access to sharable resources, the capability to support these quality learning settings will continue to grow.

**Pupils Centered Learning:**

Just as technology is influencing and supporting what is being learned in schools and universities, so too is it supporting changes to the way students are learning. Moves from content-centered curricula to competency–based curricula are associated with moves away from teacher–centered forms of delivery to student centered forms. Through technology-facilitated approaches, contemporary learning setting now encourages students to take responsibility for their own learning. In the past students learning through transmission modes. Students have been trained to let others present to them the information that forms the curriculum. The growing use of ICT as an instructional medium is changing and will likely continue to change many of the strategies employed by both teachers and students in the learning process. The following sections describe particular forms of learning that are gaining prominence in universities and schools worldwide. Technology has the capacity to promote and encourage the transformation of education from a very teacher directed enterprise to one which supports more student-centered models. Evidence of this today is manifested in:

- The proliferation of capability, competency and outcomes focused curricula
- Moving towards problem-based learning
- Increased use of the Web as an information source.

ICTs by their very nature are tools that encourage and support and independent learning. Students using ICT for Learning purposes become immersed in the process of learning and as more and more students use computers as information sources and cognitive tools, the influence of the technology on supporting how problems, improve their personal performance, and reviving the critical and abstract thinking skills necessary to become lifelong learners and contributing members of their communities.

Educational significance of ICT’s are:

- Supporting new pedagogical methods
- Accessing remote resources
- Enabling collaboration
- Extending educational programs and
- Developing skills for workplace

Effective interaction with information technology provides students with opportunities to:

- Utilize the rich, interactive capabilities of ICTs
- Identify the problems and inquire about multiple solutions
- Progress at their own pace and gain access to necessary learning resources
- Comparative learning, helping classmates work through problems and challenges
- Acquire, organize, evaluate and present appropriate information
- Accomplish tasks , and express creativity, both individually and collaboratively

**The Impact Of Ict On When And Where Students Learn**

In the fast educational institutions have provided little choice for students in terms of the method and manner in which programs have been delivered .Students have typically been forced to accept what has been delivered and institutions have tended to be quite staid and traditional in terms of the delivery of their programs. Today, ICT
applications provide many options and choices for the learners. Many institutions are now creating competitive edges for themselves through the various choices they are offering to students. They are free to choose when to learn, what to learn and where to learn. ICT benefits students in independent learning. Students are self-motivated and free to choose any course or programme which they desire to learn. ICT may help them to satisfy their urges of curiosity, creativity, imagination, ingenuity, construction etc. They get acquainted with the relevant sources of information, the ways and means of extracting required information, methods of information processing etc.

- Flexibility in Learning
- Expanding the pool teachers & students
- Cloud computing
- Outer net

**Impact Of Ict On Teacher:**

It acts as the gateway to world of information and enables teachers to be updated. For professional development and awareness of innovative trends in instructional methodologies, evaluation mechanism etc.

For effective implementation of certain student - centric methodologies such as project - based learning which puts the students in the role of active researches and technology becomes the appropriate tool.

It is an effective tool for information acquiring - thus students are encouraged to look for information from multiple sources and they are now more informed then before.

It has enabled better and swifter communication; presentation of ideas is more effective and relevant.

The dissemination of ideas to a larger mass now seems possible due to technology. Student-teachers are transformed into self learners.

ICT creates awareness of recent methodologies and thus teacher feel empowered.

**Conclusion:**

In order to function in the world economy, students and their teachers have to learn to navigate large amounts of information, to analyze and make decisions, and to master new knowledge and to accomplish complex tasks collaboratively The use of ICT is playing a vital role in the field of education in so many ways. It is providing immense help and assistance to all connected with tasks of education like teacher, students, guidance and counseling personnel, educational planner and research workers for performing their responsibilities as adequately as possible. There are a variety of approaches to professional development of teachers in the context of use of ICTs in Education. Information and communications Technology (ICT) education is basically our society’s efforts to teach its current and emerging citizens valuable skills around computing and communications devices, software that operates them, applications that run on them and that are built with them. ICT has the potential to be used as a supportive educational tool enabling students’ learning by doing. ICT can make it possible for teachers to engage students in self-paced, self-directed problem-based or constructivist learning experiences and also test students learning in new, interactive, and engage ways that may better assess their understanding of the content.

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ICT APPLICATIONS IN RESEARCH AND EDUCATION OF AQUACULTURE

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Abstract:
Worldwide, Information and Communication Technologies ICT’s are gaining prominence in all professions and play a crucial role in aquaculture development by reducing the time and space barriers. Better management, which involves higher degrees of information and knowledge, is widely seen as a way to address challenges faced by policy makers, academicians and researchers in the field of aquaculture. ICT’s are an excellent way to deliver knowledge-intensive management to the aquaculture sector because this management strategy is information based and dynamic. A collection of information resources can be accessed using the web or internet. The internet provides the capability to access the information dynamically when and where it is needed. There is need to focus on the demand for new technology and on training people in using technology. Specific work has to be done to establish accessibility to communications media and information. Information and communication are recognized as essential components of the development process to empower fishermen communities and stakeholders those who are involved in aquaculture development and inform policy makers for linking decision-making processes at every level. ICT applications in research and education of aquaculture will be a perfect blend between traditional aquaculture practices and modern and ultra modern tech savvy generation interested in judiciously exploiting the natural resources for better mankind.

Key words: ICT, aquaculture and policy makers

Web enabled internet services
Worldwide, Information and Communication Technologies ICT’s are gaining prominence in all professions and play a crucial role in aquaculture development by reducing the time and space barriers. Better management, which involves higher degrees of information and knowledge, is widely seen as a way to address challenges faced by policy makers, academicians and researchers in the field of aquaculture. ICT’s are an excellent way to deliver knowledge-intensive management to the aquaculture sector because this management strategy is information based and dynamic.

A collection of information resources can be accessed using the web or internet. The internet provides the capability to access the information dynamically when and where it is needed. There is need to focus on the demand for new technology and on training people in using technology. Specific work has to be done to establish accessibility to communications media and information. Some pertinent questions that arise are: how information needs are determined; how can the capacity to promote aquaculture information systems are enhanced; how can stakeholder’s participation be promoted; how effectiveness of information systems on stated objectives be can measured (FAO, 2003).

Impact of the internet on development
Information and communication are recognized as essential components of the development process to empower fishermen communities and stakeholders those who are involved in aquaculture development and inform policy makers for linking decision-making processes at every level. In addition to the current emphasis on extending technologies and internet access, consideration needs to be given to bringing in appropriate content such as that derived from fishermen communities and traditional knowledge of aquaculture. Dr. Norman Borlaug points out that “ways must be found to improve access to information by less educated farmers- because of equity reasons and to facilitate accelerated adoption of the newer knowledge-intensive technologies” (Borlaug, 2001 and Borlaug and Dowswell, 2001).

Development of learning organizations
Earlier advances in aquaculture productivity were largely due to traditional inputs and future increases will be realized mainly through knowledge-intensive management. The aquaculture sector in India needs to be more
knowledge-intensive so that information-based technologies can be applied effectively to management of looming economic, production and environmental challenges.

It is now accepted that survival of most organizations like aquaculture would depend on how much learning they can assimilate and use efficiently for a competitive advantage. For this we need to transform into knowledge organizations with capability to use new information and communication technologies in learning, assimilating and disseminating knowledge as rapidly and efficiently as possible. This would mean that they harness Internet for not only their but also for educating others. The universities and institutions would need to adapt this technology not only for formal but also informal education in aquaculture sector where most of the end users are illiterate.

E-learning for Aquaculture Professionals

E-learning, a form of distance education that uses ICTs, is an appropriate medium for the delivery of knowledge-intensive management strategies to aquaculture professionals, e-learning offers many advantages for delivering knowledge-intensive management strategies to aquaculture professionals. For example, simulations can help fish farmers better manage aquaculture in the face of current challenges in development. With improvement in ICT infrastructure and human resource development, fish farmers will increasingly have direct access to e-learning tools and the aquaculture researchers will be at the forefront of delivering knowledge-intensive management skills directly to fish farmers (Tam, 1998).

E-learning is the most recent evolution of distance learning-a learning situation where instructors and learners are separated by distance, time or both. E-learning, uses network technologies to create, foster, deliver and facilitate learning, anytime and anywhere. E-learners use a variety of tools while learning. For example, e-mail, e-mail newsletters, listservs (an electronic mailing list of people who wish to receive specified information from the Internet), discussion groups, chat, instant messaging and Internet broadcasts can be used for communication (White,2001), while hyperlinked web pages downloadable documents, multimedia, interactive forms and simulations are used to engage and involve learners with content. Whether to use and how to use these different tools is an important consideration of instructional design for e-learning.

Electronic Journal

Electronic journals are expensive and there are serious connectivity problems at workplaces. But the global changes in information exchange demand e-journals as an important and unavoidable component of research and education. There are some isolated instances of overcoming cost and technology barriers in some parts of developing countries.

ICT in Research

Experienced gained with passage of time, indicates that a bottom-up, participatory approach to using ICT is most fruitful and sustainable. The community use of information for learning i.e. an aquaculture innovation system using appropriate ICT helps to bridge the communication gap for information sharing and exchange between users of research outputs and aquaculture researchers.

To achieve this, we have to intensify advocacy role for improved access to telecommunications and useful information for rural communities and their development. Areas in which R&D professionals need to focus are in e-mail and discussion groups.

ICT as Medium for Research-Extension Linkage

Until massive investment in ICTs; human resource, education and rural development occur, fish farmers will continue to rely on aquaculture professionals to help them access information, learn about knowledge-intensive management and obtain traditional inputs. Defined functionally, aquaculture professionals play the critical role of linking technology needs, research and development of new technology, testing and evaluation of new technology and transferring it to fish farmers. In particular, aquaculture professionals have a crucial role to play in bridging the technology gap that exists between the existing scientific knowledgebase and information and knowledge in the hands of fish farmers.
Despite all the sophisticated information delivery systems available today, the hands-on, one-on-one, field-by-field service provided by trained professionals is by far the most effective method for helping the fish farmer, adopt new management systems in response to new information. Fish farmers need professional advice to develop and implement economically and environmentally sustainable plans which will meet their unique needs and be practical on their fish farm (Jones, 2000). Thus, ICT can be a medium for successful research extension linkage.

The Future?
In an ideal world, aquaculture scientists, social scientists, educators and other stakeholders would support the network by solving technical programmes, digesting new research findings and creating learning activities for network users. Fish farmers will use the Internet to quickly access small, useable and timely chunks of information that can help them make key decisions. Information via the Internet and web will be accessed by fish farmers through cellular phones/mobiles, handheld digital notebooks, and even in the cabs of transportation (Shutske, 1999). Within few years the Internet is going to pervade all activities of life and dominate communication among people and computers. Further, there is a convergence of telephony, TV, and digital communications. We are now able to choose and customize our information needs.

We are just at the dawn of a new communication revolution that would provide instant information anywhere, anytime to fish farmers as end users of the ICT Application in Research and Education.

References


USE OF ICT IN HIGHER EDUCATION

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Abstract:
The aim of higher education is to generate knowledge, encourage critical thinking and imparting skills relevant to this society determined by its needs. In 12th year plan, the focus is to ensuring and improving the quality in higher education. ICT offers new possibilities to assist in enhancing the quality of teaching and learning, expansion of education opportunities and improving education planning and management. ICT enables wider availability of best practices and best course material in education. The introduction of ICT in the higher education has profound implications for the whole education process ranging from investment to the use of technologies in dealing with key issues of access, equity, management, efficiency, pedagogy and quality. ICT enables better teaching and improved academic achievement of students. Online courses like MOOC and Swayam are designed to offer the best teaching learning resources to the students resides in the most disadvantaged region.

Keywords: ICT, elearning, higher education, Higher education Policy, MOOC courses, SWAYAM, NPTEL

Introduction:
Education is the most crucial input for empowering people with skills and knowledge and giving them access to productive employment in future. The aim of higher education is to generate knowledge, encouraging critical thinking and imparting skills relevant to this society and determined by its needs. Higher educational institutions in India are of different types, depending on their academic, administrative and financial systems. On the recommendation of the Radhakrishnan committee report, University Grants Commission was set up in 1953 to promote and coordinate university education in India and approve grants to them. Indian higher education system is the largest in the world in terms of number of institutions and third largest in the world in terms of student enrolment after China and USA. 12th plan proposes three e’s in higher education like expansion, equity and excellence. Higher education is considering equity in all disciplines of general and technical/professional education and reducing regional imbalances. Strengthening skill components in higher education has become the most important and strategic priority. Higher education systems have grown exponentially in the last five decades to meet the demands of quality education for all. This aspect has further gained momentum due to swift advancements in Information and Communication Technology (ICT). Information and Communication Technologies (ICTs) is a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. This broad definition of ICT includes technologies as radio, television, video, DVD, telephone, satellite systems, computer and network hardware and software; as well as the equipment and services associated with these technologies, such as videoconferencing and electronic mail (UNESCO, 2002). ICTs in higher education are being used for developing course material; delivering content and sharing content; communication between learners, teachers and the outside world; creation and delivery of presentation and lectures; academic research; administrative support, student enrolment etc. ICT has brought new dimensions in higher education. ICT provide the rich environment and motivation for teaching learning process which seems to have a profound impact on the process of learning in education by offering new possibilities for learners and teachers. New dimensions have opened up for use of ICT to assist in enhancing the quality of teaching and learning.

The focus of this paper is to enhance the role of ICT in higher education in India in the 21st century. Section two provides initiatives of use of ICT in Education in India. Section 3 discuss ICT in higher education. Section 4
provides Challenges of ICT in Higher Education in India and Section 5 explores required policy initiatives for ICT implementation in higher education.

**Initiatives of use of ICT in Education in India**

ICT in higher education includes use of satellite technology, local language interfaces, easy to use human-computer interfaces, digital libraries etc. with a long-term plan to reach the remotest of the villages. To promote use of ICT in higher education community service centers have been started throughout the country. Some notable initiatives in India include:

4. CDEEP : IIT-Bombay has started the program of CDEEP (Centre for Distance Engineering Education Program) as emulated classroom interaction through the use of real-time interactive satellite technology.
5. UGC initiated scheme called “ICT for teaching and learning process” : The UGC initiated scheme called “ICT for teaching and learning process” for achieving quality and excellence in higher education. The network is managed by ERNET India and almost all the universities are its members.
6. e-PG Pathshala : It is an initiative of MHRD under National Mission on Education through ICT. The modules are being developed jointly by the University of Allahabad and CIET-NCERT.
7. MOOCs : MOOCs are massive courses designed to support an indefinite number of participants and offers online courses. The set of freely accessible online resources provide the content of the study material. The primary means of communication in a MOOC may be through a learning management system such as Moodle, online groups such as Yahoo or Google groups and with an aggregation of various distributed platforms such as Blogs and Twitter and other learning material. Online courses for various fields are available like Professional Marketing, Digital Pedagogies, International Business (PGDBM), Forensic Sciences and several MBA courses in the form of distance education. The courses are all free and provide free certificates.
8. Swayam : Swayam is a programme initiated by Government of India and designed to achieve the principles of education Policy viz., access, equity and quality with the help of ICT platform by anyone, anywhere at any time. All the courses are interactive, prepared by the best teachers in the country and are available, free of cost to the residents in India.

**ICT in Higher Education :**

The ICT Policy in higher education aims at preparing youth to participate creatively in the establishment, sustenance and growth of a knowledge society leading to all round socio-economic development of the nation and global competitiveness. ICT is a powerful tool for diffusing knowledge and information which is the fundamental aspect of the education process. ICT include the use of web-based teaching materials, multimedia CD-ROMs, websites, discussion boards, collaborative software, e-mail, blogs, wikis, test chat, computer aided assessment, educational animation, simulations, games, learning management software, with possibly a combination of different methods being used. E-learning is an approach to facilitate and enhance learning based on both computer and communication Technology. Currently e-learning is becoming one of the most common means of using ICT to provide education to students both on and off campus with online and web-based teaching. ICT tools used in e-learning offers the creation of interactive and collaborative learning opportunities. In e-learning different resources used are video lectures, on-line material, online presentation, discussion board, email, blogs, wikis, mySpace etc. It
refers to use electronic applications and processes to learn which include web based learning, computer based learning, virtual classrooms and digital collaboration.

**Characteristics of using ICT in higher education**

1. **Student-centered Learning:** ICT provides a technology that has the capacity to promote and encourage the transformation of education from a teacher directed enterprise towards student-centered models. As more and more students use computers as information sources and cognitive tools, the influence of the technology will increase to support their studies.

2. **Supporting Knowledge Construction:** Learning approaches using contemporary ICTs provide many opportunities for constructivist learning and support for resource-based, student centered settings by enabling learning to be related to context and to practice.

3. **Anyplace Learning:** With the help of ICT, educational institutions can offer programmes at a distance mode. Today many students can use this facility through technology-facilitated learning settings.

4. **Anytime Learning:** Technology-facilitated educational programs remove the geographical barriers. Students are able to undertake education anywhere, anytime and at any place. This flexibility has provided learning opportunities for many more learners who previously were constrained by other commitments.

5. **Information Literacy:** The growing use of ICT as tools of every day life have seen the pool of generic skills expanded in recent years to include information literacy. It is highly probable that due to the future developments and growth in technology, it will help further for information literacy.

**Challenges Of ICT In Higher Education In India**

1. High cost of acquiring, installing, operating, maintaining and replacing ICTs. In developing countries, to introduce ICT systems for teaching requires a high opportunity cost.
2. Many colleges do not have appropriate room or building to accommodate technology.
3. In developing countries specially in remote and hilly areas, basic requirement of electricity and network is not available for 24 hours.
4. Teachers need to develop their own capacity so as to efficiently make use of the ICTs for their subjects.
5. Since English is the dominant language in ICT, teachers as well as students may not be able to comfortable and conversant in English.
6. The potential of plagiarism is high as student can copy information rather than learning and developing their own skills.

**Required Policy Initiatives for ICT Implementation in Higher Education**

1. There is a need to make ICT as integral part of higher education across all levels.
2. ICT based applications should be used, for monitoring teacher and student attendance and performance evaluation of students and teachers.
3. IT reporting system should be used for administrative functions.
4. Proper infrastructure should be provided in higher education institutions like reliable electricity and network connectivity.
5. There is a need to encourage teachers to use different kinds of software and mobile apps for teaching purpose.

**Conclusion:**

ICT enabled education will ultimately lead to the democratization of education in the 21st century. ICT applications provide institutions with a competitive edge by offering enhanced services to students and faculty.
driving greater efficiencies and creating enriched learning experiences. ICT in higher education bring about key issues of access, equity, management, efficiency, pedagogy, quality, research and innovation. ICT will increase flexibility so that learners can access the education regardless of time and geographical barriers. For the successful implementation of ICT in higher education, international collaborations and networks should be promoted for developing human resources required to sustain new knowledge. There is a need to accelerate efforts to use ICT for fostering quality education. Skill development programmes in higher education will be reoriented not only for gainful employment but also to help them to develop entrepreneurial skills. Best practices and best course material in education, can be shared by means of ICT which can foster better teaching and improved academic achievement of students. Asynchronous web based technologies, for example, can advance the effectiveness of learning by bringing learners into contact with learning peers from around the world. With the help of ICT, the teaching community is able to reach remote areas and learners are able to access qualitative learning environment from anywhere and at anytime. Use of ICT in education develops higher order skills such as collaborating across time and place and solving complex real world problems. ICT enabled teaching and learning will proceed towards influencing and empowering teachers, and students should join hands with teacher’s new initiatives methods in order to acquire knowledge. The role of ICT in education is becoming more and more important and this importance will continue to grow and develop in the 21st century.

References:

**EFFECT OF CO-OPERATIVE LEARNING ON SELF CONCEPT IN MATHEMATICS METHOD OF B.ED. TEACHER TRAINEES**

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**Introduction:**
The aim of teaching learning is to help the learners for receiving the information easily and retaining the same for a longer period as well as difficulty in understanding mathematics subject is difficult to understand the B.Ed. students. Education is the most important invention of mankind. It is the process of growth in which the individual is helped to develop his talents, powers, interests and ambitions. This growth is an integrated and harmonious process.

Mathematics is considered as one of the important subject is two year B.Ed. curriculum. The Indian thinkers and educationists who supported the study of mathematics held that mathematics method is an integrated part of the intimate contact. They believed that abolition of maths would causes series injurious to education in India. But as teacher if we can develop the self concept of B.Ed students with help of our numerous activities.

According to Rogers equates self concept with self structure, the self concept as structure may be thought of is organized configuration of perception of self which are admissible to awareness.

According to Johnson there are fine elements of co-operative learning. Individual accountability, positive interdependence, face to face primitive interaction, small group skills. Co-operative learning is the new concept and new approach to the educational process co-operative learning method are very effective when problems are created due to large classes. It is the large classes there no room to express one idea, activates for exploration for discussion and to develop higher order thinking.

**Co-operative Learning Method where –**
The student can work in small groups learning helps to use limited resources optimally by large number at students. The teachers to insert with many more students in group and hence is able to diagnose students more easily. It helps the reached and students to feel happy about the class.

**Objectives of Research Study**
1. To study the effect of co-operative learning in mathematics method on improvement of self concept.
2. To study the sex difference in the effect of co-operative Learning on improvement of self concept.

**Hypothesis :-**
1. There is no significant effect of co-operative learning in mathematic teaching method on improvement of self concept.
2. There is no significant difference between male teachers trainees and female teachers trainees in the effect of co-operative hearing on improvement of self concept.

**Limitations of Research Study :-**
5. The study was restricted to teachers trainee of B.Ed. Class, from only two B.Ed. colleges in Kolhapur city.
6. The present study was B.Ed. two batches in year 2017-2018.
7. The treatment period for both group was 50 minutes per day and it was spread over only for 10 days.

**Design :-**
In this study the pre-test, post-test equivalent group design was used to evaluate the effect of co-operative Learning strategy in mathematics on self concept with respects to conventional method of teaching.

**Sample :-**
The subject of the study were the teacher trainee B.Ed. class sampling technique adopted was purposive sampling. There were 40 B.Ed. teacher trainee in mathematics method. The 40 teacher trainee are two B.Ed. colleges in Kolhapur city. In this study the 25 female teacher trainee and 15 male teacher trainees was selected. Finally 20 teacher trainee for experimental group and 20 teachers trainee for control group were selected.

**Research Methodology** :-
In order to achieve the objective of the study and resources available the experimental research method was used.

**Research Tools used for study** :-
The following tools were used for the present study.
2. Dr. Raj Kumar Saraswats self concept questionnaire.
3. Program of co-operative learning.

According to topic chosen in mathematics for the study, the study materials were prepared. Each teacher trainees materials consisted of objective, Discussion material, Activities and evaluation.

**Pre-test** :-
Before starting the treatment for the experimental group pre-test were administrated on academic anxiety and self concept, to both experimental & control group.

**Treatment** :-
The experimental group was taught using the co-operative learning strategy of learning together model, the control was taught by conventional method. The co-operative learning strategy involved teacher trainee working in study materials and were gives instruction to discuss and do the activities together.

To implement this technique, the following steps were used during 50 minutes classroom lesson transaction.
1. Dividing the teacher trainees in to groups.
2. Distributing discussion or study material.
3. Allowing minutes to think discuss calculate / draw conclusion / write, Regrouping etc.
4. Allowing 10-15 minutes to think / discuss and share.
5. Consolidation of point each group and presentation by the group leaders and then by the teacher.

During the above 50 minutes period of teacher trainees were actively involved in the thinking / discussing / calculating / drawing / conclusion / writing and some time was give for consolidation. The teacher helped the teacher trainees in grouping, re-grouping, management of discipline, facilitating, discussion, consolidation, discussing, writing main points on the blackboard for the benefit of the whole class-

1. The treatment period was spread over 10 days and topics covered were as follows percent, profit and loss, profit percent or loss percent.
2. The control group was taught by conventional method.

**Post test** –
After the transaction of the lessons, self concept scale was again administrated as the post-test to both experimental and control group.

**Analysis and Interpretation** –
Comparison of gains self concept of experimental and control group.

**Hypothesis-1**
There is no significant effect of co-operative learning in mathematics teaching method on improvement of self concept.
Table show that there is difference between mean gain scores of self concept of experimental and control group but the obtained t-value of 1.38 which id less than the table value 2.00 for freedom at 0.05 level of level of significance. This indicates there is no significant difference between main gain scores of improvement at self concept so the hypothesis is accepted. The experimental group is slightly better than the control group in improvement of self concept. Co-operative learning helped in improvement of self concept to little extent.

**Hypothesis -2**
There is no significant difference between male teacher trainees and female teacher trainee in the effect of co-operative learning on improvement of self concept.

### Experimental Group

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean (M)</th>
<th>S.D.</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>20</td>
<td>12.71</td>
<td>3.62</td>
<td>1.38</td>
</tr>
<tr>
<td>Control group</td>
<td>20</td>
<td>18.42</td>
<td>4.27</td>
<td></td>
</tr>
</tbody>
</table>

Table show that both for experimental and control group there is difference in mean gain scores in self concept between male teacher trainee and female teacher trainees.
But the difference are not statistically significant the obtained t-values 1.41 and 0.96 are lesser than the table t-value 2.04 at 0.05 level of significant. This indicates that there is no significant difference between mean gain scores at male teachers trainee and female teacher trainee in case of experimental and control group. Hence the Hypothesis is accepted.

In comparison the control group male teacher trainee and female teacher trainee of experimental group there little more improvement in self concept but thought not significant in case of male this improvement is more than that of females this result may be attributed to the emotional status and cultural factors.

**Reference :-**

MOOC AND CURRICULUM DEVELOPMENT IN HIGHER EDUCATION: A GLOBAL SCENARIO

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Abstract
Today impact of MOOC is that there is an increased public discussion on online education & e-learning. In current education market place MOOC is a very significant development by using media tools, media rich environments & technology. Massive open online course (MOOC) is accessible, usually with no prerequisites, to anyone who wishes to enroll, usually for free, with self-assessment or peer assessment. MOOC’s are more networked with blogs, tweets, wikis etc. we can make MOOC & Curriculum development of various courses that will applicable at universities globally. It will be achieved with proper practice of tools, technology & prominent faculties of famous universities worldwide.

Keywords: MOOC, Education, Curriculum Development, Assessment, Global.

Introduction:
A massive open online course (MOOC) is an online course aimed at large-scale interactive participation and open access via the web. In addition to traditional course materials such as videos, readings, and problem sets, MOOCs provide interactive user forums that help build a community for the students, professors, and teaching assistants (TAs).

Now a day’s educational environment is switching from classical classroom to online environment. MOOC appears to be the easiest way to improve the knowledge & skills [5]. MOOCs are bringing about a revolution in education.
Structure of a MOOC
The common duration of a MOOC is from 6 to 12 weeks. A MOOC is accessible 24 hours a day, 7 days a week. The majority of the content is delivered asynchronously meaning students can access it in their own time and at their own pace. However, sometimes there can be optional synchronous events such as 'live' webinars (interactive sessions) which require participants to join in at specific dates/times.

The learning of students in a MOOC is usually assessed by multiple-choice questions. An important component of MOOCs is assignments. Students have to upload assignment solutions into the MOOC platform. Assignments can be evaluated and graded. Students usually don't need to buy any books for these courses, because all reading is either be provided within the MOOC content or is linked to open access texts.

MOOCs in India and Abroad:
There are various notable institutions, both non-profit and commercial, that offer these courses worldwide with the help of MOOC providers [2]. A few of these are listed below,

NPTEL (India): Indian Institutes of Technology (IITs) and Indian Institute of Science (IISc.) offer online courses through this platform which require no registration and are free of cost.

WizIQ (India and USA): IIT Delhi, India offers this course through this platform which requires registration and fees to study courses offered by them.

Open2Study: The headquarters of this platform for online courses is based out of Australia.

Coursera,edX: The headquarters of this platform for online courses is based at USA.

MOOC program in India:
The University Grants Commission (UGC) along with the HRD (Human Resource Development) Ministry has launched the MOOC program in India for higher secondary, bachelors and masters degrees. This will cover a wide range of subjects that may or may not be taught in regular campus studies [2].

A new portal for MOOCs named ‘Study Webs of Active-Learning for Young Aspiring Minds’, in short, SWAYAM, is said to present students with an opportunity to study anything from a list of 2000 courses out of which 200 are currently available for registration. Audio-visual medium, illustrations, research and case studies with self-assessment are few of the mediums chosen to approach the study of these courses.

Statement of the Problem:
In current education scenario, rather than regular & distance courses, some courses need to take into consideration the diversity of learner experience and intentions of large number of learners not from India but all over world. We have a challenge of binding together a set of learning activities with specific curriculum learning goals for courses at universities.

Importance of the Study:
By using MOOC in education level for reforming curriculum, it will helpful to students with global vision.

Scope of the Study:
The scope of the study for MOOC (Massive Open Online Courses) & curriculum development in higher education will at university level as they had a large infrastructure, financial support etc.

Objectives of the study:
To study how MOOC & Curriculum development of various courses will applicable at universities globally. To study blend of Curriculum development & MOOC with proper practice of tools, technology & prominent faculties of famous universities globally.

Review of the relevant literature:
SWAYAM (Study Webs of Active Learning for Young Aspiring Minds) is basically an integrated MOOCs platform for distance education that is aimed at offering all the courses from school level (Class IX) to post-graduation level.
The platform has been developed collaboratively by MHRD (Ministry of Human Resource Development) and AICTE (All India Council for Technical Education) with the help of Microsoft and is capable of hosting 2,000 courses [1].

MOOCs are now one of the best technologies in the field of computer science. MOOCs aim at involving a large-scale of participants through open access via the web. MOOCs are offered for free and any student can participate in them. Viswanathan defined the uniqueness in MOOCs as: “it enables participants to connect outside the traditional learning environment, thereby offering autonomy, openness and emergent knowledge” [7].

In order to ensure delivery of quality content, seven NCs (National Coordinators) have been appointed by the government and assigned a specific sector for reparation of online courses for SWAYAM [1].

![Table of NCs](http://www.shiksha.com › All Engineering articles

SP Kothari, director MIT India Program, feels that the reason why MIT chose to start MOOCs is that this top university of America wanted to make a difference in the world through education and research. Explaining further about Massive Open Online Courses he said, “MOOCs are a means of democratizing the access to high-quality education to individuals in every corner of the world. MOOCs represent a superb confluence of innovation, technological advancements, and a philanthropic commitment to make the world a better place through education.”[6]

**The methodology comprising:**
This study is based on secondary data collected from well-known articles of journals, books, outstanding websites, and report sets of appropriate higher education.

**Methods of research:**
Initially an investigative viewpoint will be adopted, where an understanding of a problem will be developed and plans will made for some form of next strategy.
The proposed study will use Descriptive research method that focuses on survey and content analysis.

**Sampling design and assumptions**

The suggestion & remarks from various eminent faculties of different universities for higher education will be accepted. Randomly, various eminent faculties of different universities will be selected to participate to give right way for curriculum reforming.

**Scope of MOOC:**

MOOC cannot replace the traditional approach of classroom learning but it can be used as an alternative method to bridge the gap between various schools of learning [2]. It has been said however that MOOC has certain limitations which are listed below:

- Although digitalization is a must now, there are many nations that are unable to provide the basic necessities to enroll for MOOCs hence the spread of MOOCs are limited.
- It is not always certain that all MOOCs provide degrees, certificates and/or diploma’s which limits the number of candidates that enroll for these courses as many companies ask for records of the education levels achieved and candidates are unable to provide them with the same.
- A student’s life is restricted to one room that has internet access and a laptop or a computer which allows little or no interaction with the outside world.
- Since MOOCs are web-based, there is no monitoring of the candidates/students, which carries a risk of plagiarism or cheating.

**Conclusion:**

MOOCs will be a great support for universities for designing curriculum with higher education not just in India but all over the world. MOOCs should be taken about in mainstream of educational field as it is affecting the future environment of digital higher education.

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TEACHER ROLE IN MODERN EDUCATION SYSTEM TO INCULCATE LIFE SKILLS IN STUDENTS

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Abstract:
Skills can be said to incorporate all aspects of generic skills that include the cognitive elements associated with non-academic skills. Life skills are identified to be the most critical skills in the current global job market especially in a fast moved era of technology. The reorientation of education which is one trust of education for sustainability also relates the importance of these so-called ? Life skills. Vast research and expert opinions have been sought in the effort to determine the specific Life skills to be implemented and used in higher institutions of learning. Based on the research findings obtained, Ten Life skills have been identified and chosen to be implemented in all institutions of higher learning here. They are:

Understanding Life Skills – A Teacher’s prospective Life skills have been defined as “the abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life” (WHO). ‘Adaptive’ means that a person is flexible in approach and is able to adjust in different circumstances. ‘Positive behaviour’ implies that a person is forward looking and even in difficult situations, can find a ray of hope and opportunities to find solutions. The terms ‘Livelihood skills’ or occupational/vocational skills refer to capabilities, resources and opportunities to pursue individual and household economic goals and relate to income generation. Thus, Life skills are distinct from livelihood skills.

UNESCO – had suggested in 1968 agreement about Teacher’s role. Teachers’ practice program should be consist following things.
1. Every student should develop general knowledge as well as individual culture.
2. Having capacity to teach others should be enhance.
3. Philosophy which is important creating Nobel person to know it.
4. To conduct social, economic and cultural progress in Teaching

Objectives:
Understanding capacity:
- To consider student’s development and their learning process.
- To know the problems of students who are being growth.
- To absorb evaluation Technique.
- To get information about question of school administration and organization.
Life Skill’s :-
- Effective communication skills should be bring in oneself.
- Program should have organized to the curriculum.
- Teaching technique should have used.
- To acquire capacity of teaching and handing the various method the subject which hard to understand.
- To bring caliber to design curriculum related program for achieve macro objectives of education in high school.

Attitude :
- Guidance should have done to solve student’s problems.
- View point should be sound and definite about Teaching profession.
- Scientific attitude should be prepare for solving the problem.

Importance of Life Skill’s Education & Teacher’s :-
We have lot’s of problem for living daily routine life to overcome such problem we need of life skills happiness. Peace contentment health and success will get in our life through life skills education. It is very essential to know the importance of life skills and to develop such skills appropriate manner in student. National curriculum design peace and harmony of education 2005. They had advocated life skills can be possible through education

Importance of Life Skill’s for Teacher’s :-
The Role of Teachers in Life skill’s Education :-

1. Teacher should do work for the students as a friend, guide and facilitator.
2. Teacher should emphasize to create learning environment to the students.
3. Teacher should use different method and technique for subject content in his teaching.
4. Teachers should follow constructionist because of students they construct their knowledge so give first priority in teaching.
5. Teacher have to inculcate co-ordination between learning skills and life skills in his classroom Teaching.
6. Teacher should absorb skills for Guide and councilor and application it.
7. Teacher should appropriate Guidance according to the students interest and aptitude.
8. Teacher should provide all facility and opportunity for expressing students through the medium like sport, brain storming, dramatization and presentation.
9. Through a lesson of Teaching life skill interpersonal, communication between student and Teacher should be contribute.

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ROLE OF TEACHER EDUCATORS IN EMPOWERING TEACHERS FOR 21ST CENTURY

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Abstract:
Teachers being the sculpture of the nation should have proper tool required for this. These tools have to be fine tuned to new demands. Hence there is always an urgent need to unearth and equip with such tools. The very purpose of educating is to nurture very strong young blood who in turn cause for true national and global understanding. This is possible from well knit class rooms and dedicated teachers. Preparing such a teacher demands creative, experimental and powerful tools. These tools are teacher educators who are to be equipped accordingly. Empowerment occurs when power goes to teachers, who then experience a sense of freedom. Academic freedom is the right of an academician to pursue whatever lines of enquiry the teacher sees. This in turn builds their self-esteem and self-confidence to discharge their duties with utmost zeal and dedication. This will help to have competent and dedicated teachers in the teaching profession. Working with commitment is necessary to make the educational programme function at the highest degree of efficiency. This can happen only when teachers are competent and empowered with suitable teaching skills. Teacher Educators are the persons who are going to prepare competent and empowered teachers and these teachers in turn are going to mould the future citizens of our country. So this paper attempts to focus on a role of teacher educators in empowering teachers to meet the challenges of 21st century.

Key Words: Teacher, Teacher Educators, Empowerment and Competency

Introduction:
Teacher education is a back bone of education system in a progressing nation and the teacher educator is the pivot in the system of Education. Teacher educator is also a teacher obviously: the progress of a nation ultimately depends upon the quality of its teachers. It is also acclaimed beyond doubt that teaching profession is noblest of all profession. But it is an irony that teaching is the most unattractive profession and teacher is no longer occupies an honorable position in the society.

Empowering teachers as facilitators was seen as a way to put teachers at the centre of the “Reformation movement”. The responsibility of preparing competent teacher surely lies with the teacher education programme. Quality of teacher education programme depends largely on the professional competence of teacher educators. Competence of teacher is a function of teacher’s professional knowledge, pedagogic skills, desirable attitudes, motivation power and one’s own personal qualities. Empowerment of teachers is regarded as a process where teacher develop the competence to take charge of their professional growth and to improve their working environment. So there is a strong ease for empowering teachers and them to competent enough to meet the challengers of 21st century. The Present Paper describes the role of teacher educators in building competent teachers and also emphasizes the avenues for empowering teachers to meet the challenges 21st century.

Teacher Empowerment:
The Quality of teaching depends a great deal on the level of teacher involvement in the teaching-learning process and need to be empowered so that they can develop competence to take charge of their own growth and be able to resolve their own problems in their everyday practice. To empower is to equip or provide someone with an ability; it is to enable a person perform more effectively. Teacher Empowerment is strongly correlated with task motivation. Therefore in order to engage teachers in pedagogical reform one must give them some control over their own work and influence in the reform process. Teacher empowerment is investing teachers with the right to participate in the determination of educational goals and policies and to exercise professional judgment about what and how to teach: Bolin (1989).
Thomas and Velthouse (1990) defined teacher empowerment by the existence of four components: choice, competence, meaningfulness and impact. Teacher empowerment appears to reinforce a range of requisites for effective teacher functioning, including: autonomy (freedom to do the work), Knowledge (tools to do the Work), importance (a sense of personal impact) and Feedback (Information about how people are doing) Dee et al. (2003).

Need for Teacher Empowerment:
Teachers need to be empowered to develop skills and competencies needed in making important collaborative decisions and a display of commitment that in turn will create room for significant collaborative participation and democratic understanding. It enables teachers exercise power over their educational lives and even resists controls that are detrimental to their own work. It enables them to generate and amplify their voice in educational affairs, develop and improve their pedagogical know-how, enable them to understand how, why, what they do which increases their competence in their areas of specialization. It creates a situation where teachers are able to work closely with the school administration especially on matters that affect them collectively and individually and develop a sense of appreciation which eventually trickles down to personal activities at classroom level. It helps a teacher discover him/herself, be updated on new knowledge which when utilized help to transform teachers every day practices in accomplishing of educational objectives. It enables a teacher to undertake critical and transformative actions towards every day issues and in the process take charge of situations hence establish links between theory and actual practice. Teachers will develop the capacity to reflect and evaluate their academic progress in order to keep abreast with social need.

Teacher Educator Strategies to Enhance Teacher Empowerment:
Teacher empowerment is more than the expansion of teacher power as it also emphasizes the growth of teacher ability and power to handle diverse circumstances. The Teacher Educators of the 21st century should focus on training teachers to be reflective in practice, active in learning, innovative, creative and competent in nature. So here there are some strategies designed by the teacher educators to empower teacher.

- To create opportunities that are formal and informal for influence, design, create and implement the curriculum hence improve academic qualities for the nation.
- Encourage the inclusions of teachers in community, school and national level discussions related to the well-fare and ability of all students to academically achieve at the highest level.
- Provide teachers access to resources to identify and solve problem related to their classroom in order to ensure they can help all students learn.
- Teacher educator must consider teacher effectiveness for high performance by use of value added scores based on learner’s performance using national examination performance.
- Teacher evaluation which over time has not been seen to be objective but punitive rather than a tool to help in improvement and there is need for cultural shift in belief and behaviour in the use of teacher evaluation.
- Continued professional development which tailored towards teachers identified need based on ones strength or weakness and as such courses be provided that are aligned to areas of improvement.
- Teacher educator should motivate teachers those who have improved themselves academically and reduce high attrition will get adequate financial support and promotion in future.
- Induction programs should be provided and continued support in order to maintain effective teaching and development of a mentoring program aimed at building teacher effectiveness and ongoing support.
- Teacher educator need to build confidence in their teachers, be allowed freely express their opinions regarding the everyday issues and try out new techniques to address problems they face and followed by discussion among all those concern until a consensus is attained.
Teacher educators should guide teachers and they will be allowed to pursue shared leadership take control over their work and immediate environment, participate in decision making and share information to all rather than by few teachers, which will increase shared leadership in the present competitive world.

Teachers to be allowed to work in collaboration, share experiences in an effort to solve educational problems such as in curriculum planning, execution and evaluation, allow interaction and linkage which is critical for empowering teacher.

Teacher educators should develop a program where teachers are prepared and upgraded in other area such as teacher-learning process, timetabling and examinations, where future leaders are developed and empowered with skills to take up the task whenever called upon.

Teacher educator should develop and establish transformative vision that would not only change the face of the teacher but change the entire organization and restructure teaching profession as concerns preparation and teaching and use of appropriate teaching methods and instructional materials while taking account of student’s individual difference and invoking quantitative and qualitative changes among students.

Constraints towards Teacher Empowerment:
The nature of teacher work today can be challenging. The demands from the development of science and technology increased controls in curriculum and instruction, standardization of teachers work make teachers maintain little control over their work making the professional abilities and resulting in decline in teacher status. Consequently, empowering teacher is a challenging task for teacher educator and it becomes an important agenda in teacher’s professional development as there is need to increase teacher power and ability in order to improve their status (Zeichner 1991). The ever increasing enrolment and work load of teachers and their isolated working environment make it hard for teacher to engage in professional and develop strong professional to communities. Another challenge is time factor which affects teacher’s everyday activity. Decision making process takes a lot of time before a consensus is reached making majority of teachers not be willing to take more responsibility owing to great pressure in balancing two demands teaching and taking part in administrative duty. Teachers lack of moral support from other teachers especially when they are tied up with other responsibilities. Lack of training in related field such as team and capacity building programs hamper them from participating in decision making process fairly well. Where teacher empowerment is encouraged changes the power relations at school, teachers may not be easy and they might not be ready for that. Thus the legacy from traditional bureaucracy will hinder the realization of teacher empowerment.

Role of Teacher Educators in Empowering Teachers:
During the past decade, teacher empowerment has received a great deal of attention from researchers who studied its relationship to various organizational outcomes. Teacher educators are invariably seen as frontline participants in educational reform preparing competent and eminent teachers, critical to successful quality schooling in our county. So the teacher educators play a pivot role in empowering the teachers to meet the challenges of 21st century. The following roles are to be considered important.

- Teacher educators train the teachers with a blend of content knowledge, specific skills, expertise and literacies.
- Teacher educators develop critical thinking, problem solving, creativity, flexibility, effective communication and collaboration, self directed learning as a base for core academic knowledge among teachers.
- Teacher educators expertise the teachers with the skills needed to make the best use of rapidly changing technologies and vital to working and living in an increasingly complex, rapidly changing global society.
- Teacher educators make teachers aware of the central position in education process and the need to keep improving and updating their knowledge.
Teacher educators recognize the fact that all teachers have individual differences in their intelligence, creativity, skills and potentiality which can be utilized collaboratively in order to accomplish educational goals.

Teacher educators develop effective and successful teaching models which will enable the teachers to teach competently in ever changing needs of the society.

Teacher educators develop suitable methods, approaches, tools and techniques which in turn enhance the quality of teacher’s teaching-learning process.

Teacher educators also concentrate on the psychological aspects of teachers like mood, interest, aptitude, attitude, intelligence and creativity which will enhance the quality of teaching process.

Teacher educators inspire the teacher’s involvement in relation to the professional commitment for better teaching.

Teacher educator develops a passion, a feeling of proud among teachers which will in turn leads to job satisfaction.

Finally teacher educators develop the skills to motivate children, manage a classroom, master essential subject areas and tend to the daily needs and progress of the students among teachers to meet the new challenges.

Conclusion:
The closing of the 20th century has brought in several changes, practically in all spheres of global economy and global communication. The 21st century is the age of knowledge skills, economy and the centre stage of change. Teacher education has not escaped the impact and is in the process of change, there by challenging the traditional system of education. Teachers teaching in the 21st century will be profoundly impacted by universal access to information, advances in science and technology that help them better understand in learning process and development of assessment tools which guide teaching intervention. So in this regard the roles of teacher educators are remarkable and outstanding in the development of the spirit of creativity, enquiry, innovativeness, intellectual and professional competences among 21st century teacher. Teacher educators have a central role in empowering teachers and in creating a culture of peace through education.

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ST CENTURY EDUCATION AND CHALLENGES TO PERFORM THE ROLE OF TEACHER IN HIGHER EDUCATION

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Abstract  
Effective teaching has to be fluid and adaptive to current culture. The effective teacher understands that there are core skills and knowledge that have to be learned, but must be presented in a manner that students find relevant, even if not in their immediate lives. This requires an art and a science to teaching that makes the teacher of the 21st Century effective. As according to the NCTE Regulations 2014 the Enhancement in Professional Capacities through Reading and Reflecting on Texts, Drama and Art in Education, Critical Understanding of ICT and Understanding the Self signifies the vivid role of teacher in 21st Century. The science of teaching requires content knowledge, organization, management skills, and detailed planning. The art of teaching is not about possessing an outgoing personality, but making connections to students, parents, as well as connecting the curriculum to the real world in a relevant manner. The 21st Century teacher creates and maintains intentional relationships with students, parents, and colleagues for the sake of tomorrow’s success. This is not an easy task, but when the teacher understands how her role in the process has changed, it does make the process much easier. Success of students is the ultimate goal of education; however we have to remember what makes that success possible. The teacher will thrive and the students will flourish when the role of the teacher adapts to the needs of culture of today. The teacher in facilitating the growth of students actually does the highest and the noblest job. Teaching, sometimes they spend most of their leisure time in meaningless activities and as a result they lost their research caliber. Teachers play a vital role in shaping the students personality and hence to shape the tomorrow. This paper focuses on the vivid role of the teacher.

Introduction  
Education plays a pivotal role in a child’s life by shaping its behavior. Teaching is said to bring about desirable changes in a child’s behavior i.e. the changes which are desired by teachers, parents, policy makers and society. All of them want to groom a child according to the need of the hour. We educate a child so that it can survive in society, fulfill all its needs, maintain healthy relations with all its fellow beings and lead a successful life.

Teaching as a Profession  
Teaching is often said to be the noblest profession among all. A teacher should realize that the work they are doing is the noblest; they need not be apologetic or feel guilty and small; instead they should take pride and be confident about their worth and work. No service can be better than the service rendered to the individual to enable him to grow to his fullest stature, at his optimum speed, in all the aspects of his personality, to be his best self and the work of rendering such a service can be the highest and the noblest.

Paradigm Shift in Teaching and its Challenges  
Teaching, once known to be a noble profession, is now at very low ebb. Some of the teachers are found to indulge in all sorts of malpractices and are self centered. They are found to spend most of their leisure time in meaningless activities. They are highly politicized and ridicule those teachers who do good work. They are found losing their research caliber. Values have fallen and they are trampled under the brutal boots of the reckless teaching community. A drastic change can be observed when we compare the present education system with the ancient education system. These changes pose a challenge for teachers to educate students. We may observe the following changes and challenges in 21st century classroom while comparing with 20th century classroom. We found 21st century classroom is student centered, outcome based, and research driven as compare to 20th century.

In the same context, **National Policy on skill Development (2009)** has identified certain basic skills like Communication and Presentation, Acquiring and processing information, Synthesizing knowledge, Integrating knowledge from other discipline, Leadership, Analytical skill, Language skill, Computer science skill, Creative thinking, Innovative thinking and Problem solving skill.

With the change in the need and expectations of the society, the role of the teacher too is changing. **National Curriculum Framework (2009)** recommends a paradigm shift from rote memory to learning by understanding. It suggests that curriculum should help students to develop their own thinking and ideas through experience, action and reflection. Schools should facilitate the process of knowledge construction and help them to become independent thinkers capable of solving their own problems. The role of teacher undergoes a major transformation from the impartment of knowledge to facilitator of conditions. There have been many problems observed in the relationship between teacher and students. To accomplish the main aim of making the learners learn, teachers make mistakes and face the challenges. As according to Recommendation of NCF 2009 for Teachers the following roles were need to regulate.

- Teacher should be prepared to care for children and love to be with them, love knowledge and be constantly learning, own responsibility towards society and work to build a better world, develop sensitivity to the problems of the learners, commitment to justice and zeal for social reconstruction.
- Teachers should change their perception towards learners as a receiver of knowledge and encourage its capacity to construct knowledge.
- Teacher education should engage with theory along with field experiences to help trainees to view knowledge not as external to the learner but as something that is actively constructed during learning. Teacher education should integrate academic knowledge and professional learning into a meaningful way.
- Teachers need to be trained in organizing learner-centered, activity based, participatory learning experiences - play, projects, discussion, dialogue, observation, visits, integrating academic learning with productive work.
- Teacher education should engage teachers with the curriculum, syllabi, e-content development and textbooks to critically examine them rather than taking them as ‘given’ and accepted without question.
- Teacher education should provide opportunity to trainees for reflection and independent study without packing training schedule with teacher directed activities.
- The programme should engage teachers with children in real contexts than teach them about children through theories. It should help them to understand the psycho-social attributes and needs of learners, their special abilities and characteristics, their preferred mode of cognition, motivation and learning resulting from home and community socialization.
- The programme should help teachers or potential teachers to develop social sensitivity and consciousness and finer human sensibilities.
- We need to broaden the curriculum to include different traditions of knowledge, train and educate teachers to connect school knowledge with community knowledge and life outside the school, and thereby enrich the curriculum so that it goes beyond the textbooks and contextualizes educational experiences.
- We need to re-conceptualize citizenship training in terms of human rights and approaches of critical pedagogy, emphasize environment and its protection, living in harmony with oneself and with and with natural and social environment; promote peace, democratic way of life, constitutional values of equality, justice, liberty, fraternity, secularism, and caring values.
- In view of the many sided objectives of teacher education the evaluation protocol should be comprehensive and provide due place for evaluation of attitudes, values, dispositions, habits, and hobbies through appropriate quantitative as well as qualitative techniques.
• Students come from different communities and each community has a diverse culture therefore the students have different life style, tradition, attitude, speech and behavior which often challenges teachers to develop and maintain healthy relations with learners. Moreover, students possess different learning styles. Some students need to be taught the same concept twice or thrice. Sometimes repeatedly teaching the taught concepts make teachers angry and impatient towards such learners. As a result, a big gap in teacher-students relationship is created. Other than this, it is observed that some students like those teachers who teach the subject well and do not look for a personal relationship with the teachers, outside the classroom. Whereas, some students like those teachers who not only teach well but also show concern for the learners’ personal life and have a personal relationship with students even outside classroom.

• Teachers, now-a-days, increasingly come across students who misbehave, who are undisciplined and defiant. Some of such students do not only make use abusive language while dealing with the other students but do not shy away from using the same kind of language with their teachers, when provoked. This was rarely found in the ancient education system. Now-a-days, reaching the students’ affective domain is the greatest challenge that teachers face. So such a defiant student is also tackle well as it is the role of a teacher.

• Working with Weak and over Sensitive Students is one sensitive challenge for teachers. Sometimes while dealing with students, teachers observe that some students start crying on small and petty issues. The teachers, as a result, become emotional, soft and offer direct help to such students. This is no less than injustice to all the other students who are strong enough to tackle small issues independently and thoughtfully. It has always been a challenge for the teachers how to counsel the students having personal problems. Should a teacher get involved in learners’ personal matters? How close is too close? How emotional should a teacher be? To guide and counsel students with personal problems has always been a challenge for the teachers. If a teacher cannot counsel the students, then he would not be able to establish a healthy relationship with the learners.

Conclusion
A teacher is always a student a seeker of knowledge. A teacher is not merely a teacher but he is a more effective demonstrator through his personal life of values, attitude, outlook, behavior and performance. By following professional ethics, the teachers conduct and behavior become respectable and socially acceptable. He should be a controller, prompter, a reservoir of resource, assessor, organizer, participant, tutor for the betterment of learners. If a teacher behaves in a very positive and appropriate manner, the students follow him and want to become like him and consider them as a role model.

References
CURRICULUM DEVELOPMENT FOR TEACHER EDUCATION
THROUGH D.E.: A STUDY OF NEW APPROACH

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Abstract
Education was initiated for making human life good and hazily qualitative. As the times passed by we all could come to realize that quality and solid education process has many boons to offer. Solid the education process more is the development of latent qualities of learner, attitudes and values. Therefore, basic education for all was no learners, better are the modifications in his/her competencies, interests, attitudes and values. Therefore, basic education for all was no longer the aim. For better progress in social, and other spheres of life, the goal is now Secondary education for All’. Tremendous efforts are being made to achieve this goal. Probably in the next 20 years we shall fully achieve this goal. Even higher education is full of Latent power but we can offer the facility of higher education to just a few. Yet, 100% literacy and 100% secondary education are the two great challenges for the Indian state.

Introduction
We have briefly reviewed the changes introduced in society and School. We have to consider the entry not only in the 21st century but also into the third millennium. It will emphasize the need for total revision in teacher – training curriculum, content knowledge and education process. For, without these, it will not be possible to face the challenges of the third millennium. It will be reconstruction or renovation; we shall have to consider numerous factors such as comprehensive thinking about primary and secondary education and changing needs and roles of teacher and society.

Factors in Teacher Training
(1) Reflective thinking approach to pre – service or in – service teachers: when any act is performed, we need to verify it, verify its effectiveness. We need to inculcate this attitude among students as well.
(2) Continuing professional development and self – study: teacher should update his/her content knowledge and pedagogical knowledge. This requires continuous reading, thinking, reflective thinking and research; He/she needs for knowledge and attitude for knowledge. Through self – efforts, he/she should develop competency to discharge the duties and functions.
(3) Professional Orientation: Teacher should try for self – directed professional development and prosperity. It should help him/her to establish contacts at the national and international levels for gaining experiences.
(4) Proper plans will be required in order to create various good experts for curriculum development, textbook writing, instructional material development, evaluation, progress recording, planning and management, research
in various educational fields. Various plans for creating creative teachers and for in-service training programmes will be necessary in near future.

(5) Flexibility and use of Information communication Technology in teaching: In order to facilitate this use, we will have to develop different competencies and skills among teachers so that they take accurate decisions for teaching. The teacher training programme should provide facilities and opportunities for developing such proficient teachers.

(6) Opportunities for Teacher Personality Flourishing: During the teacher training period, opportunities should be provided so that teachers flourish their personalities. Those opportunities will include seminars, workshops, conferences, reflective thinking on various topics, research opportunities, provisions of opportunities and motivation for international contacts. (Sharma,)

In order to incorporate all these factors, we will have to make teaching training programme more comprehensive and multitudinous. We shall have to take care that teachers’ competencies and commitment are developed from time to time. We shall have to take care that teachers’ competencies and commitments are development from time to time. We shall have to provide their teaching performance. The trainees of the in-service teacher training are employed in different schools. It is the duty of teacher training programme to make them powerful and faithful professionals. These teachers need to continuing access to integrated education for facing the current challenges, for updating his/ her professional skills, for empowering his/her commitment, and for empowering and society.

Continuous process. Various institutions such as CASE, DIET, NCERT, SCDRT and NEPA? Continuously arrange for in-service orientation.

Quality Teacher Training Programme

In this new millennium, the teacher cannot afford to depend on others. He/ she needs to undertake constant self-study for ‘positive’ development in one’s own personality and forever strive for professional advancements. Without these qualities, no teacher will be able to satisfy his/her professional needs, inculcate proper attitude and responsibly shoulder the commitments. Dynamics teacher believers in his/her own initiative; he/she is always a self-motivated and self-directed learner. Therefore, even after formal retirement from the field, he/she can function as a promoter, motivator and supporter in the society.

It is necessary to consider following three factors for making teacher education prosperous and qualitative.

a) Job analysis of teaching profession at the present times
b) Analyses of all the factors related to pupil registration at primary and secondary levels, their in-take capacities and factors related to quality improvement
c) Study of new challenges and new demands from the first ten years of this new millennium.

When job analysis of teaching profession is done, it is found that the responsibilities of modern teachers have increased tremendously. The horizon of performance has extended very much. But the teacher education failed to take cognizance of these changes in a proper extent. If we believe a teacher to be professional, we must urgently provide comprehensive and effective education to him/her. We need to consider these aspects while constructing the new teacher-education curriculum. In-service training should be regularly organized; teacher should become ‘central’ in all the orientations to teachers, continuing education and self-study programmes. He/she should be flexible for adjusting him/herself to situations and teaching; he should be a reflective thinker, a thinker of basic values. This education has to be need-based. All these must find their rightful places in the curriculum.

Performance, Competencies and Commitment areas

We can ascertain five areas related to the teaching profession. Those five areas can be considered significant and critical because those areas can be analyzed for enhancing the area of performance and its quality. Those performance areas are as follows:

Performance Areas
(a) Classroom performance: This area includes teaching learning process, evaluation techniques and classroom management.

(b) School-level performance: It includes morning and noon school prayers, national-social-cultural festivals, programmes and celebrations of incidents, and school management.

(c) External School programme participation: Field visits, observation visits, excursions and trips, and co-curricular activities are included in this area.

(d) Performance for parental contacts and co-operation: It incorporates motivation to send wards to school, their cooperation for continuity in studies, regular attendance in schools, discussions about wards progress, excellence in pupils achievements, diet and health of wards.

(e) Performance for social contacts and co-operation: It is related to participation in spread of education in rural areas, planning for socially useful programmes with the help of school and society, procuring social cooperation for school development. (N.C.T.E. Framework-1998)

On the basis of these five performance areas, many activities can be introduced in teacher training programme. It will improve the total educational process. It will create consciousness that it is necessary to consider the needs of schools, needs of society and the aspirations of society for constructing teacher education programme. Proper weight ages to teaching skills and other practical skills should be ascertained. Moreover, self-sufficiency and insight for effective performance of professional functions will necessary areas for development.

**Competencies**

In order to renovate the present curriculum, 10 competencies in the context of teachers have been ascertained. Those competencies will enable the teachers to perform his/her functions insightfully and confidently. They will empower him/her to discharge his/her duties with self-confidence. They will help the teachers to upgrade their status. Since each competency consists of a number of sub-competencies, all the 10 competencies will be useful for achieving many Objective. Those competencies have been enlisted by NCTE. The first three competencies pertain to pre-teaching initial preparation of teachers. Competencies 4 to 8 are related to classroom and school functions of teachers. The remaining two competencies are related to teacher’s social relationship and development. Those competencies are as follows:

(a) Referential competency: This competency is related to the question ‘Why to teach?’ It presents a comprehensive approach about development in society through education role of the teacher therein. It is conscious that every teacher has his/her reference-frame.

(b) Conceptual competency: Various types of knowledge such as psychological, sociological and physiological knowledge related to teacher and teaching are expected.

(c) Curricular content Competency: These competencies are connected to specific education level such as pre-primary, lower primary, higher primary, secondary etc.

(d) Transactional or Interactive Competency: These Competencies are found according to subjects i.e. general or according to the stages of development. These competencies are in accordance with the ethics of education.

(e) Instructional material-related competencies: These competencies include originality in preparation, selection and utilization of teaching-learning materials, use of new educational technology and use of local resources.

(f) Evaluative Competencies: These are the evaluation-related competencies such as preparation of evaluation tools, their selection, and their use, development of tests and their standardization and their use for examination outcomes.

(g) Management Competencies: These competencies are concerned with organization of programmes in classrooms, schools and organization of social programmes.

(h) Competencies for parental contacts and co-operation: These include organizational capacity for planning programmes of the parent teacher association and continual contacts with parents.
(i) Social Contact and co-operation
(j) Related competencies: All the competencies required for equal welfare of institutions and society, capacity to maintain social contacts for social development are included in these competencies.

**Commitments:**

<table>
<thead>
<tr>
<th>Commitments towards pupils</th>
<th>Social Commitments</th>
<th>Professional commitments</th>
<th>Professional Obligation</th>
<th>Commitments towards eternal basic Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Opportunities for self-expression through learning by the students</td>
<td>a) Education to the deprived children from society</td>
<td>a) Pride in one’s own profession</td>
<td>a) Commitment for achieving excellence in professional obligations. Total understanding of progression for total assimilation it.</td>
<td>a) To transmit values into students</td>
</tr>
<tr>
<td>b) To treat the students affectionately and like the members of the same family</td>
<td>b) Information/ notification about open school.</td>
<td>b) Continuous efforts for professional development</td>
<td>b) To achieve highest excellence in profession</td>
<td>b) It is necessary that the teacher should accept/ assimilate those values.</td>
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<tr>
<td>c) To make learning creative and pleasant.</td>
<td>c) Teaching the adult literates</td>
<td>c) Love for one’s own subjects and students</td>
<td>c) To procure up-to-date information about the subject that one teachers</td>
<td>c) Those values should serve as guidelines in the most difficult problems and in professional professional practices</td>
</tr>
<tr>
<td>d) Friendly relationship between teachers and students</td>
<td>d) Role of co-ordination among various development programmes of various institutions</td>
<td>d) Awareness of profession and assimilation into it.</td>
<td>d) To procure information about changes caused due to technology in one’s teaching subjects</td>
<td>d) Punctuality, discipline, co-operation, objectivity, love, truth and other abstract values such as liberty, equality, fraternity, social justice, religious tolerance and democracy should be inculcated.</td>
</tr>
<tr>
<td>e) Unselfish love for students</td>
<td>e) Teaching the adult literates</td>
<td>e) Establishment of intimate relationships with colleges</td>
<td>e) To obtain ultra-modern information in one’s own subject through discussion, interactions, debates with others.</td>
<td>e) Proper thinking about how to use values easily without making their great show</td>
</tr>
<tr>
<td>f) Joy in the successes of students</td>
<td>f) Firm personal opinion about professionalism</td>
<td>f) Inculcation of a tendency to accept good qualities of others</td>
<td>f) To make the factor which is accepted at the intellectual and the emotional level, become a permanently feature of one’s personality</td>
<td>f) Basic values provide energy to teachers/ students and make them strong.</td>
</tr>
<tr>
<td>g) Introspection about one’s own teaching (considerations about why students do not understands, teaching methods, basic concepts, stages of students, thinking about teaching about teaching etc. for remedial teaching)</td>
<td>g) Inculcation of affectionate sentiments.</td>
<td>g) To integrate thinking, expression and action for achieving excellence in profession.</td>
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</table>
Following five commitments have been selected as part of teacher Education curriculum.

My own observations regarding 1998 curriculum Framework
We can surely combine some competencies. It will reduce complications. Since those competencies are related to one another, they can be represented through a three dimensional model. There are two additional reasons for combination of competencies –

1. Some competencies are comprehensive.
2. If each competency is presented separately, each will have to be provided with equal Weightage.

It is not necessary to assign same weight age to some competencies. For example, management, basic values are important competencies. But their responsibility rests with general teachers. It is not possible to deal with them in two years. It their context, we can only do the screening.

It is necessary to consider these competencies at different levels of teacher education. Those competencies should be renovated, strengthened and made prosperous from time to time. It is easily possible in in-service teacher training. Only the acquisition of competency will not make work performance more effective and efficient. For this purpose, professional commitments are also significant. Therefore, commitment fronting needs to be considered in teacher education. Those commitments might be towards students, society, and profession, excellence in profession and towards basic human values.

All the competencies, commitments and performance that have been specified in the Teacher Training Curriculum Framework 1998 can be classified as given in TABLE 1

<table>
<thead>
<tr>
<th>Teacher-related Factors</th>
<th>Competencies</th>
<th>Commitments</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-exploration</td>
<td></td>
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<td>-</td>
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<tr>
<td>Prescribed functions</td>
<td>- Content</td>
<td>- To the profession</td>
<td>- Classroom</td>
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<tr>
<td></td>
<td>- Conceptual</td>
<td>- To Excellence</td>
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<td></td>
<td>- Transactional</td>
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<td>- Developing teaching learning material</td>
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<td></td>
<td>- Evaluation</td>
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<td></td>
<td>- Management</td>
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<tr>
<td>Students</td>
<td>- Conceptual</td>
<td>- To the Learner</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>- Contextual</td>
<td></td>
<td></td>
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<tr>
<td>School</td>
<td>- Conceptual</td>
<td>- To the Profession</td>
<td>- School level</td>
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<tr>
<td></td>
<td>- Contextual</td>
<td>and excellence</td>
<td></td>
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<tr>
<td>Society</td>
<td>- Working with Parents</td>
<td>- To the Society</td>
<td>- Community</td>
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<tr>
<td></td>
<td>- Working with Community and other agencies</td>
<td></td>
<td>related</td>
</tr>
<tr>
<td></td>
<td>- Conceptual/ Contextual</td>
<td></td>
<td>- Parents related</td>
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The relationships of these three areas with the teacher-related factors can be stated through 200 to 250 statements. Those statements can be used for defining the contents.

In order to upgrade quality of teacher-training, we shall have to consider teachers' competencies, commitments and performance collectively. Moreover, if we wish to create earnestness, sincerity and motivation in the teacher trainee, we shall have to integrate the three areas and develop the teacher training programme in the context of teacher-related personal questions which can be classified into six groups.

- **Teacher-related Personal Questions**
  
  Teacher-related Personal questions include the following:
  
  1) Self-search as a teacher, 2) Prescribed functions, 3) Pupils, 4) School, 5) Society, 6) Education system, 7) National and international level.

  Each of those groups and related personal questions are discussed here:

  **Self-Search as a Teacher**

  It is expected that teachers explore themselves, turn inward and search themselves as teachers. They need to be conscious of their own, attitude and also limitations. Those questions should promote self-analysis.

  1) Have I entered into the teaching profession through helplessness?
  2) Am I satisfied in my Profession?
  3) Are my personality characteristics suitable for the teaching profession?

  **Thinking as Teacher about Prescribed Functions**

  School prescribes some functions to the teachers. Teachers need to think about their own approach about those functions and the fulfillment of those functions.

  1) Do I perfectly know the curriculum I teach?
  2) Do I know the time period in which I should complete that curriculum?
  3) Do I know the objective I need to achieve through teaching?
  4) Do I know the previous knowledge of the class I teach?
  5) Have I understood all the concepts and the theoretical parts included in the curriculum?
  6) Can I transmit the knowledge as per my expeditions to the pupils?
  7) Do my students appreciate my teaching?
  8) Do I continuously strive for excellence in teaching?

  **Questions about Pupils**

  The teacher, before he/she teacher the students, should collect some information about the students, should collect some information about the students he is teach. Some questions are enlisted so as to recommend the areas about which the teachers need to procure student-information.

  1) Have I understood my students?
  2) How can I utilize students’ characteristics for learning?
  3) Could I develop students’ latent characteristics?
  4) Have I understood how my students think while learning?

  **My School**

  The teacher needs to think about his/her school as well. Some questions are provided as examples.

  1) Do I contribute to the development of my school?
  2) Do I know the fundamental role/philosophy of school?

  **Education System**
The teacher implements the curriculum through his/her teaching. The curriculum he/she teaches is ultimately related to the total education system. Therefore, some questions do emerge in the teacher’s mind. Some related areas are enlisted as examples.

1) Study of total education system
2) Quality/status of total education
3) Thinking about comprehensive education problems

Some questions related to these areas are put forward.

1) Do I know about the new changes in the education system?
2) Do I agree with the changes taking place in the education?
3) Are the present conditions conducive for retaining the quality of education?

**Society**

The teacher should think about how he/she as a teacher can contribute to the welfare of society. Following questions can help him/her in this thinking:

1) Is education useful for social change?
2)
3) What can I, as a teacher, do for the emerging society?
4) Do I function for eradicating the evil social traditions and the destructive tendencies from the society?

**National and International Thinking**

Teachers play a vital role in promoting national and international unity. Therefore, they need to think about their roles in this area. For example –

1) What can I, as a teacher, do for national and international understanding?

When all these questions are considered, some questions prominently emerge, especially when the B.Ed. curriculum is revised and reconstructed. They are –

1) What should the minimum hours of work be for the students?
2) How of those modules should be the requisite modules?
3) Which ones should be the supplementary modules?
4) Which practicals should be ascertained for them?
5) What modifications should be made in previous practical’s?

It is necessary to bring certainty in all these aspects.

Moreover, it is possible to transform the present curriculum into the personal questions. For that purpose, however, we shall have to accept the Modular curriculum.

- **Modular Curriculum**

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<th>TABLE 2</th>
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<td>List of Modules</td>
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<td><strong>Theoretical Modules</strong> (30 Modules)</td>
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<td>(1) Self – exploration (30 Modules)</td>
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<td>(2) Emerging Indian Society Teacher in Emerging Indian society</td>
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<td>(3) Student Psychology Psychology of Teaching – learning Process</td>
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<td>(4) Problems in Secondary education Innovations/ New trends in Education</td>
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<td>(19) Methods and Models of Teaching</td>
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<td>(21) Value-oriented Education</td>
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<td>(22) Study Skills</td>
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<td>(23) Reference Skills</td>
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The Teacher Education Curriculum Framework – 1995 had enlisted competencies, commitments and Performance areas. They were enlisted earlier TABLE 1.

This list of Modules is not exhaustive. It can be updated. When this Modular Curriculum is constructed for the Open University, we shall have to consider some additional issues.

- **Issues to be considered while Developing the New Model of the Open University B.Ed. Curriculum**

While constructing the curriculum, it has become imperative to think of a different methodology in distance education. The traditional methods may not prove to be efficacious. The curriculum should not be inconsistent with the philosophy and fundamental principles of distance education. Therefore, flexibility, freedom for selection, self-motivation, professional development, self-directed learning, and need-based education should be considered in curriculum construction. In addition to this, Modular Curriculum should become a reality.

The general nature of the curriculum will be as follows:

1. The B.Ed. curriculum will be the Open University consists of 48 credit points. Those credit points can be increased to 56 credit points. At the rate of one module for one credit point, minimum 48 modules will be required. Even total 48 modules leave no scope for selection. Therefore, the question is how many modules are required to provide proper scope for selection? If we decide to provide an alternative for each module, total 96 modules will have to be developed.

2. The thinking about compulsory and optional modules poses there questions Out of 48 credit points, modules of how many credit points should be made compulsory? How many credit points should be made compulsory? Why? In order to provide need-based education, no module should be made compulsory. But experts suggest that some factors and aspects should be compulsory in teacher training. Therefore, the study of those factors and aspects will have to be made compulsory.

In short, many questions emerge at this critical point. For compulsory.

(a) Will the teacher training curriculum become acceptable without the courses based on philosophy and psychology?

(b) Does the curriculum become need-based if the study of some courses made compulsory?

(c) Which courses should be made compulsory?

(d) What should be the minimum number of compulsory course?

(e) How to ascertain the needs of teachers?

It is expected that these questions are briefly discussed in the context of curriculum construction.

3. Curriculum development will require development of modules. In doing so, proper precaution will be required to make sure that each module fulfills at least one need of the trainee, helps him/ her to achieve at least one objective and solves totally at least one of his/ her problems. For this purpose, it is necessary to ascertain the precise needs of teachers. This is the first requisite function of the curriculum Revision committee. The teacher needs can be collected through a survey. They can be collected through churning of thoughts. All that is required is to consider the teacher central and to consider his/ her personal questions that are related to self-exploration, pupils, commitment and his/ her thinking for the society and the nation.

4. Curriculum construction also requires thinking about pupil characteristics and distance education mode.

(a) Teacher trainees of the Open University are trained teachers. They do possess some knowledge, competencies and skills. We need to provide better knowledge, competencies and skills to them. We also need to provide to them what they do not possess in terms of knowledge, competencies and skills.
(b) The teacher trainees perform their functions in the actual school conditions. It is possible to exploit these real school conditions for the purpose of teacher training.

(5) It is also necessary to be aware of the fact that teacher trainees enroll themselves because of external motivation and internal because of external trainees enroll themselves because of external motivation and internal motivation. Therefore, the Open University needs to be conscious of these motivations while revising the B.Ed. curriculum.

External motivation may be due to higher scale but the internal motivation is due to an urge for professional development. In those teacher trainees who enroll themselves because of external motivation, internal motivation should be created and it should be nourished. For this purpose, the curriculum should be more activity oriented. It should make them conscious of problems and questions. It should provide personal experiences to them. It is an obligation of the curriculum and the teacher education to transform external motivation into internal motivation.

Epilogue

The modern period is experiencing the new waves of information technology. They have occupied all the fields—from the primary education to the higher education. The field of teacher education cannot afford to remain isolated from them. However, the teacher trainees need to develop proper competencies to utilize those technologies for knowledge enhancement and for effective teaching. Even the teacher trainees should be made to understand how those technologies are useful for daily teaching performance and knowledge acquisition. For this purpose, some competencies in teacher trainees will have to be developed. The revised B.Ed. curriculum will have to meet these demands.

In order to maintain quality of teacher education, we shall have to consider many factors and aspects which will ultimately improve the quality of school education. We should never forget that teacher education is the basic foundation of school education.

Teacher training is a very important programme. The individuals, who undergo this training, become teacher in schools and mould the future citizens of our society. Therefore, the B.Ed. curriculum revision demands a lot of prethinking. We need to consider the new framework by the NCTE, new trends in education, changes in secondary education and pupil characteristics for constructing the B.Ed. curriculum. All that is required includes reflective thinking, research support and a will to accept modern, new thoughts.

It is necessary to consider these competencies at different levels of teacher education. Those competencies should be renovated, strengthened and made prosperous form time to time.

References

MOOC – A STEP TOWARDS KNOWLEDGE ERA

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Introduction:
E-education is not entirely new concepts. It is grown in each country. It is taking roots for Indian students as well. One can access the best education in the world direct from the persons who wrote the courses for online study. The courses are available for any subject and the levels can be from beginner to higher advances. Individual should find the right course and level without difficulty. In the 21st Century, students may stay at home and take education across the world. E-education system includes the development of e-materials, teaching students online, administering students online, providing the infrastructure and support within which e-education can operate, planning and managing e-education. Today MOOC (Massive Open Online Course) is one of the way for geographically dispersed students for participation in web based, free distance learning program. The word ‘MOOC’ was coined in 2008 by Dave Cormier (University of Manitoba). 2012 was a big year of MOOCs. In this year, various types of MOOCs became well known throughout the world.

Types of MOOCs:
There are three types of MOOCs
1. MOOCs: Traditional learning institutions typically use an MOOC, where the teacher is the expert and the learner is the consumer. These courses primarily consist of little external materials, and mirror traditional learning by using video lectures and quizzes. (McGreal and others, 2013) It is based on ‘hub and spoke’ model where hub is the teacher and spokes lead to the learners. It has traditional knowledge view.
2. cMOOCs: It is based on connectivist pedagogical model. Original courses were offered by Siemens and Cormier (King & Nanfito, 2013) cMOOCs are largely open and decentralized with limited structure. Learners are autonomous and view knowledge as generative with a focus on sharing and connecting with other participants through blogs, forums and LMS
3. Quasi MOOC: It provides web based materials as open educational resources (OER). This intends to support specific learning tasks and there is no social interaction or grading eg. Khan Academy. (McGreal et.al 2013)

Advantages of MOOCs are as follows
1. No tuition fees
2. Open access, exposing top level professors.
3. Open courses for all interested, regardless of location, resulting in a more diverse student base.
4. Collecting data via computer program helps closely monitor the success and failure of each student.
5. Some enthusiastic Professors have found global sharing of knowledge more appealing. Only the drawback is that Massive courses attract hundreds of thousands of students, but only around 6% actually complete the course.

Various courses in various fields were designed by different organizations related to MOOC. The emergence and use of MOOC for professional teacher development is still uncommon. Researches published were very less on this concept. Over 6.5 million students have enrolled in over 800 free courses from over 200 different learning institutions (Gallagher and Garrett, 2013). There are numerous MOOC providers, but the three largest are Coursera, Udacity and Edx (Shumski, 2013). For example, Let us see about one of the given providers Coursera.

Coursera:
It was founded in 2012 by two Stanford Computer Science Professor who wanted to share their knowledge and skills with the world. Prof. Daphne Koller and Andrew Ng put their courses online for anyone to take and taught
more learners in a few months than they could have in an entire lifetime in the classroom. Since then course put a platform where anyone, anywhere can learn and earn credentials from the world’s top universities and education providers. Coursera has 161 partners across 29 countries, offering 2,606 courses. In India, Indian School of Business is partner. Every course on coursera is taught by top instructors from the world’s best universities and educational institutions. Courses include recorded video, lectures, auto-graded and peer-reviewed assignments and community discussion forums. When you complete a course, you will receive a sharable electronic course certificate.

In the subject ‘Education’ so many courses are available for students. Following are some examples of courses.

1. Academic English writing (University of California)
2. Virtual teacher (University of California)
3. TESOL certificate (Part I & II) – (Arizona University)
4. ELL success in the content classroom (Arizona University)
5. Academic skills for University success (University of Sydney)
6. The teachers of social and emotional Learning (University of Colorado)
7. Learning to teach online (University of New Southwales, Australia)
8. Supporting children with difficulties in reading and writing (University of London)
9. Digital story telling (University of Houston)
11. Assessment & Teaching of 21st Century skills (University of Melbourne)

**Role of the University in MOOC**

The Role of the University is to make available these courses to students because Excellent students who could not be accepted as onsite students in prestige universities, due to lack of financing and constraints as to how many can fit into onsite classrooms. These students face new opportunities to get a prestige degree in their own homes. There is nothing particularly new about MOOCs. Most universities have offered online courses for many years. The only difference is the scale. MOOCs are built on efficiency of scale. Lectures, assessments and activities and the expertise of the professor is unique to a particular university. Because of the scale, “hand on” involvement by the faculty member is limited. This shifts the responsibility on the shoulders of the individual students and their motivations to learn. MOOC courses can start any time and can be of any length. That makes the MOOC compelling for short term courses that are highly focused on topic or a series of courses that might build towards a deeper understanding in a knowledge area. They can be offered with or without a certificate. The credential can be separate from the class itself. University can take the advantage of the format of MOOCs. So the courses can solve the problems in higher education.

MOOCs can be a way for universities to offer high quality, self-paced courses to fill the needs at a minimal cost to students. Since MOOCs are not bound by the academic calendar, it could be broken into smaller units of a few weeks that students can take during summer breaks or other times that fit better with their overall schedule. More importantly, it could help high school teachers shift their time to core courses at their school and give them the opportunity to work with students as mentors and coaches in new, innovative ways.

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CURRICULAR ENGAGEMENT AS A PEDAGOGICAL INNOVATION FOR DEVELOPING SKILLS AMONG HIGHER EDUCATION STUDENTS

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Abstract

Nowadays, skills are becoming essential. Skill means the ability to use one’s knowledge effectively and readily in execution or performance. Skills are divided into two categories such as hard and soft skills. Skills and knowledge are the driving forces of economic growth, international relations and social development for any country. India is expected to be a skilled workforce. Countries with higher and better levels of skills adjust more effectively to the challenges and opportunities of world. As India moves progressively towards becoming a ‘knowledge society’ it becomes increasingly important that the country should focus on advancement of skills and these skills have to be relevant to the emerging economic environment, education system and international context. For this reason India has started some programmes for skill development such as Skill India, NSDP (National Skill Development Program), Ministry of Skill Development And Entrepreneurship etc. For purpose of skilled country mostly our education system should be helpful to achieve it through well defined curriculum at different levels of education. Student’s personal and mental development can be achieved but have a very little space for Skill Development. Curricular Engagement is one the best way to achieve skillful person and social development through different subjects. Curricular Engagement is a partnership within student (Learner), teacher (Facilitator), school, peer, parent, adult, media and society. Curricular Engagement can be Pedagogy for skill development. Pedagogy is a strategy of teaching it includes with what to teach, why to teach, how to teach, whom to teach, where to teach etc. The present study focuses on role of Curricular Engagement in developing skills in Higher Education.

Key words: Curricular Engagement, Community Engagement, Skill development, Pedagogy etc.

Introduction

Primary education is base of higher education, we cannot avoid it. In education System it is essential to give a valuable contribution in Higher Education due to higher education has been performing very crucial role in India. In another hand, Indian Government’s Educational Planning also emphasizing on this issues. Curricular engagement is a pedagogical Innovation because it’s role, responsibilities and social commitment are being played to development of country. Hence, it performs those roles and commitments which are essential in too be developed country. Skill development is one of them role.

Philosophical Foundation of Curricular Engagement

Above philosophers has provided the actual aims of education. By understanding their thoughts we can provide good development chances to students. Curricular engagement wants to develop the students in social context that will support to student’s currier and growth.
Definitions of Curricular Engagement

Curricular Engagement is most fundamentally a relational process focused on capacity-building and grounded in the principles of servant leadership: all participants are engaged in relationships not only in which all contribute and all benefit but also of mutual learning, growth and change. (Whitney, B.C., McClure, J.D., Respet, A.J., Clayton, P.H. (2007) www.curricularengagement.com)

Curricular Engagement describes the teaching, learning and scholarship that engage faculty, students, and community in mutually beneficial and respectful collaboration. Their interactions address community identified needs, deepen students civic and academic learning, enhance community well-being and enrich the scholarship of the institution. (Carnegie foundation. category of Community engagement. engagement.illinois.edu.)

Thus, Curricular Engagement means bridging the gap between school and society by doing academic activities.

Previous Researches

Patti H. Clyton studied on curricular engagement. Her research is emphasized on engagement of participants with respect to mutual learning, growth, change and also student’s development.

Robert G. Bringle and Julie A. Hatcher studied on service learning entitled ‘Innovative practices in service-learning and curricular engagement’. In their work they emphasize on institutional best practices in the assessment of service-learning.

Elias etal. (1997) suggested those involved in guiding children and youth should pay special attention to this domain: social skills allow people to succeed not only in their social lives, but also in their academic, personal, and future professional activities.

Carnegie Foundation supports to Curricular Engagement by doing category of community engagement in the report of Curriculum Engagement and outreach and partnership classification submission.(Original submission: August 29, 2008). By this report they given a strong proof about curricular engagement which is mutually beneficial and respectful collaboration of faculty, student and community.

Indiana State University have suggested in their report entitled ‘Summary of 2014-2015 Curricular Engagement Inventory’ that not all curricular engagement activities provide a direct contribution to our community.

Shelley H. Billig (May, 2000) studied entitled on ‘Research on K-12 School_Based Service-Learning The evidence Builds’. Under ‘Impact of Service Learning on Schools’ has specified that Service-Learning improves the overall school climate, builds cohesiveness and more positive peer relations among teacher and students along with more positive relation between students and teachers.

Indiana State University’s Curricular Engagement Inventory (CEI) is a review of community engagement and experiential learning practices within academic courses. (http://www.indstate.edu.)

Curricular engagement stand on Community-Based-Service Learning, internship, practicum, clinical experience and fieldwork, consultation, student teaching, students research, arts performance/exhibition, laboratory/studio, study abroad etc.

Chris Goldspink, Pam Winter and Margot Foster studied on ‘Student Engagement and Quality Pedagogy’. They found that engagement involves three dimensions related to behaviour, affect and cognition and quality of pedagogy applicable to primary and secondary years.

Penny de nyl and James Hooper (2013) studied on Key Attributes of Engagement in a Gamified Learning Environment. Under this study they introduced the attributes focused goals, challenging tasks, clear instructions, rapid feedback, affirmation of performance, social networking, safety from failure, curiosity and novelty, fantasy.

By reviewing researches on students engagement and curricular engagement it is shows that all researches are based on service learning that emphases on society, community engagement. But they have not introduced how to prepare a lesson note. For this reason in this study Curricular Engagement Model is developed and also given a process of lesson note guidance preparation before going to classroom.
Classification of Skills

Both skills are not different from each other. They are helpful and supports to each other.

Curricular Engagement

It is collaboration between-

Curricular Engagement is most fundamentally a relational process focused on capacity-building and grounded in the principles of servant leadership: all participants are engaged in relationships not only in which all contribute and all benefit but also of mutual learning, growth and change.

Need of Curricular Engagement in Education

In our nation, a lot of skill development schemes are coming. It is becoming beneficial to skill development and youth involvement in society. As a pedagogical practice curricular engagement help to develop a skills with respect to nation contribution. Following figure shows the importance of curricular engagement in education system-

Figure no. 1. Classification of Skills

Figure no. 2. Collaboration in Curricular Engagement

Figure no. 3. Curricular Engagement in Education
Areas of Curricular Engagement in Education System
1. Designing the curriculum and syllabus
2. Designing the textbook
3. Assignments
4. Practical
5. Field work
6. Teaching-Learning methods
7. Research

Implementation Process of Curricular Engagement in classroom

Steps of Curricular Engagement to implement in the classroom:

- Objectives
- Content selection
- Skill-sub skills selection
- Actually implementation
- Role to be played
- Methods to be followed
- Effectiveness checking
- Feedback

Figure no. 4. Curricular Engagement in Education

It is important to set the objectives before going to content. Objectives should be regarded to state and national international concern. Then next step comes to content selection. The content selection authority should be decide by the society members, teachers, students, and concern context. Skills and sub-skill selection step emphasizes on students skills development that will relevance to first step. Methods should be pre-planned and regarded to content delivering. Teacher and student’s role should be also pre-planned. After implementation it should be checked the effectiveness of the whole process and every school, college and higher education institutions should provide or suggest their opinion to concern authority.

Conclusion
Higher education is investment factor of national growth. Without any educational planning nation cannot face the international challenges because education is mother of personal, social, state and national development. Hence, it is essential to open the curricular engagement centres that will support to higher educated students to serve to society. Because curricular engagement emphasizes on involvement of society in education and education need to provide those opportunity which are concern to society. Definitely, Curricular Engagement will be the best practice to achieve skillful person and social development through different subjects.

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LEARNING STYLES AMONG POST GRADUATE STUDENTS: A STUDY

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Abstract

Students are the cynosure in the education system and they are from different background having versatile style of learning. It is essential to give an opportunity to the student’s to express during the teaching learning process. Learning styles refer to a range of competing and contested theories that aim to account for differences in individuals’ learning. Every student has their own learning styles. In this paper researchers had made an attempt to identify and explore the learning styles of Post Graduate Students belongs to different faculties with reference to curriculum. For the present study quantitative approach has been adopted and it was found that post graduate students preferred to have participant and Independent learning style.

Key words: Learning styles, Higher Education, Post Graduate Students

Introduction

Educational research has also proved that all students are unique individuals merged in a common classroom coming from varied socio-economic and cultural background, possessing different learning styles that rarely comply with their teachers’ teaching styles. It is common strategy to follow the teaching style regarding to the learning styles. Learning style has an important place in the lives of individuals. When the individual knows their learning style, they will integrate it in the process of learning that helps successful achievement in academic life. Identification of the learning styles it helps to the student to become an effective problem solver. Hence, it is important that individuals receive education in areas suitable for their learning styles.

Tucker, Stewart and Schmidt (2003) argued that research to address the match between the learning styles of the students and teaching styles of the teachers in the field of business education needs more attention. It means teaching style should be relevant to students learning style.

Learning Style

- Learning style refers to a range of competing and contested theories that aim to account for difference in individuals’ Learning.
- It is common strategy to follow the teaching style regarding to the learning styles.

Review of Literature and researches

Abbas Pourhossein Gilakjani and Seyedeh Masoumeh Ahmadi (2011) has stated that Teachers can incorporate learning styles into their classroom by identifying the learning styles of each of their students entitled ‘The Effect of Visual, Auditory, and Kinaesthetic Learning Styles on Language Teaching’. Under this study research and literature review were taken with reference to Kinesthetic and Tactile styles, and disfavor Group styles. Form theses reviews the results show that students prefer kinesthetic learning styles above others, whereas the teaching methods mostly suit auditory learners. Under this study it is concluded that The purpose of using learning styles is to find the best ways for both students to learn effectively and teachers to teach efficiently.

Nasreen Hussain and Nadia Ayub (2012) worked on entitled Learning Styles of Students and Teaching Styles of Teachers in Business Education: A Case Study of Pakistan. The purpose of the was to find the association between learning styles and teaching styles at undergraduate level in a business school. For the fulfillment of the purpose Canfield Learning Styles Inventory (CLSI, 1992) and Staffordshire Evaluation of Teaching Styles (SETS, 2007) were used to collect a data. 262 students and 12 teachers were selected from four disciplines: Marketing, Management, Human Resource Management, and Finance by random sampling method in the Nation of Pakistan. There was a positive correlation between student learning style and teacher teaching. The collected data were analyzed by inferential statistics were ‘r’ and ‘p’ value done and it was found that awareness
raising sessions should be arranged for students and teachers to realize the importance and implications of knowing their learning and teaching styles in business education environment.

**Laxman Singh, Punita Govil, and Rekha Rani (May, 2015) in the research article entitled ‘Learning Style Preferences Among Secondary School Students’** has attempted to find out the relationship between preferred learning style of students to certain demographic variables like gender, place of living, religion and parents’ educational level. This study was conducted on the sample of 300 secondary school students of Aligarh District using Jaffery Barsch (1996) Learning Style Inventory. The collected data was analyzed by Chi-Square test for on nominal scale data type. The findings of the study revealed that the most preferred learning style of secondary school students was Visual (45.7%) followed by Auditory (21%), Tactile (18.3%) and kinesthetic (15%). The findings of the study would provide better understanding to the teachers to construct curriculum, planning of lessons and to teach according to students’ learning styles.

**Grasha-Riechmann learning Style Scale.**

About the Scale-
- Grasha’s background was in cognitive processes and coping techniques.
- Antony Grasha and Sherly Reichmann in 1974 formulated the Grasha-Riechmann learning Style Scale.
- It was developed to analyze the attitude of students and how they approach learning.
- The test was originally designed to provide teachers with insight on how to approach instructional plan for college students.

**Objective of the study**
1. To find learning style among the Post Graduate students of different streams.
2. To find the learning style among Post Graduate students based on gender.
3. Based on findings of study suggestions will be Put forth.

**Need of the Study**
1. When the individual knows their learning style, they will integrate it in the process of learning that helps successful achievement in academic life.
2. Identification of the learning styles it helps to the student to become an effective problem solver.
3. It helps to teachers that which methods to be followed in the classroom.

**Assumption of the Study**
Students have different learning styles.

**Scope of the Study**
The finding of this study will be generalized to all post graduate students affiliated to Shivaji University, Kolhapur.

**Delimitation of the Study**
Present study is delimited to post graduate students opinion with reference to learning styles affiliated to Shivaji University, Kolhapur.

**Measurements of the scale/study**-
Grasha-Riechmann’s Student Learning Style Scales has 60 items with five point ratings-
- Strongly Agree (SA)
- Moderate Agree (MA)
- Undecided (UN)
- Moderately Disagree (MD)
- Strongly Disagree (SD)

This scale has divided into six learning styles-
1. Independent
2. Dependent
3. Competitive
4. Collaborative
5. Participant
6. Avoidant

Learning style has given the norms based on student’s age group.

Procedure of the study
1. For understanding student’s learning style Grasha-Riechmann’s Student Learning Style Scales were selected.
2. The tool was distributed and explained by the researchers to the students from Science, Social Science, Language and Commerce streams.
3. The filled questionnaires were collected by the researchers.
4. Analyzed the collected data as per the selected faculties and analyzed it based on provided instructions given into Scale.
5. Conclusions were drawn.

Sample of the Study
The sample of the present study was post graduate students of Shivaji University Kolhapur. Researchers administer the Learning style questionnaire among 80 PG students including girls and boys students from four different faculties of SUK. The Simple random method was used.
The sample was divided into four faculties of SUK-

Method of the Study
Descriptive survey method was used for the present study.

Tool for the Study
Grasha-Riechmann’s Student Learning Style Scale.

Statistical Analysis
The collected data was analyzed based on given instructions in the scale measurement.

Data Analysis
1) Science Stream
Table No.1. Analysis of learning styles of PG Students from Science Stream

<table>
<thead>
<tr>
<th>Gender</th>
<th>Independent</th>
<th>Avoidant</th>
<th>Collaborative</th>
<th>Dependent</th>
<th>Competitive</th>
<th>Participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls</td>
<td>01</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>09</td>
</tr>
<tr>
<td>Boys</td>
<td>03</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>01</td>
<td>06</td>
</tr>
</tbody>
</table>
Observation
Above Table No.1. it is observe that among the 10 girls students, 09 students have Participant Learning style while 01 Student have Independent learning style and among the 10 boys students, 06 students have Participant Learning style while 03 Students have Independent learning Style and 01 student have competitive learning Style.

Interpretation
On the basis of observation, most of the girls and boys students have Participant Learning Style.

2) Social Science Stream
Table No.2. Analysis of learning styles of P.G Students from Social Science Stream

<table>
<thead>
<tr>
<th>Gender</th>
<th>Independent</th>
<th>Avoidant</th>
<th>Collaborative</th>
<th>Dependent</th>
<th>Competitive</th>
<th>Participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls Students</td>
<td>03</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>07</td>
</tr>
<tr>
<td>Boys Students</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>10</td>
</tr>
</tbody>
</table>

Observation
Above Table no.2. it is observe that among the 10 girls students, 07 students have Participant Learning style while 03 Student have Independent learning style and among the 10 boys students, 10 students have Participant Learning Style.

Interpretation
On the basis of observation, most of the girls students have Participant Learning style and all boys’ students have Participant Learning Style.

3) Language Stream
Table No.3. Analysis of learning styles of P.G Students from Language Stream

<table>
<thead>
<tr>
<th>Gender</th>
<th>Independent</th>
<th>Avoidant</th>
<th>Collaborative</th>
<th>Dependent</th>
<th>Competitive</th>
<th>Participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls Students</td>
<td>01</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>09</td>
</tr>
<tr>
<td>Boys Students</td>
<td>03</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>00</td>
<td>07</td>
</tr>
</tbody>
</table>

Observation
Above Table No.3. it is observe that among the 10 girls students, 09 students have Participant Learning style while 01 Student have Independent learning style and among the 10 boys students, 07 students have Participant Learning style while 03 Students have Independent learning style.

Interpretation
On the basis of observation, most of the girls and boys students have Participant Learning Style.

4) Commerce Stream
Table No.4. Analysis of learning styles of P.G Students from Commerce Stream
**Observation**  
Above Table No.4, it is clear that among the 10 girls students, 08 students have Participant Learning style while 02 Student have Independent learning style and among the 10 boys students, 07 students have Participant Learning style while 03 Students have Independent learning style.

**Interpretation**  
On the basis of observation, most of the girls and boys students have Participant Learning Style.

**Conclusion**  
As per the objectives-
1. Most of the Post Graduate students have Participant Learning Style.  
2. Girls students’ Participant learning style is higher than Boys students. (By summing of all girls students’ Learning Styles)

**References**
IMPLEMENTING OBE PHILOSOPHY: A ROBUST INITIATIVE TOWARDS CURRICULUM REFORMS

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Abstract:

Education is aimed at overall development of student fraternity to mold it into an employable candidate. Today, much attention has to be paid to produce quality graduates besides mere quantity. Implementing outcome-based education (OBE) could be the most promising initiative at all levels of education, especially at higher education institutions. The first and foremost step as per this philosophy is ‘curricula and courses’ redesign so as to achieve specified learning outcomes. Systematic delivery of the designed content with a check on attainment of objectives-outcomes is customary. Outcomes Based Education though emanated in the US, it is now embraced by over 47 countries across the globe. This article elucidates importance of OBE philosophy. It covers various components of the Philosophy and its implementation status both nationally and globally. It may benefit all the stakeholders of education industry.

Keywords: OBE, Curriculum, Employability, Learning Objectives

Introduction:

Indian education system, particularly higher education is continuously facing challenges. The biggest one is ‘graduates employability issue’. Declining ‘enrollment ratio in higher education’ is also point of concern for the country. There is great dilemma whether to attract youth into the higher education or to focus on building excellence and global effectiveness among them [1]. Quality of education has a wide-ranging impact on employability and labor productivity. According to official data, India’s labor force, which was 472 million in 2006, is expected to be round 653 million in 2031[2]. In the Indian context, the worry point is the declining percent of employable graduates in every stream. The required skill set is found missing amongst the graduates. The issue is still severe in case of engineering graduates. It is obvious due to the time and economics involved to acquire such a degree. Neither the parents nor the government affords loss of sincere efforts because of emerging non-employability situation. It demands concrete solutions towards this problem. The policy makers are putting constant efforts to arrive at some solution to increase employability ratio. The present article strongly recommends the OBE philosophy as one robust initiate towards tackling the issue through the act of redesigning curricula as per OBE.

OBE versus Traditional Education:

Elements of Outcome Based Education Philosophy (OBE)

Understanding OBE is all about focusing and organizing every aspect of an educational system so that at the end of their learning experiences, students will be able to perform a given task successfully. This indicates initiating with a clear picture of what is important for students to be able to do. It consists of organizing curriculum, instruction, and assessment to ensure that learning ultimately happens. Outcomes are clear learning results that students can demonstrate at the end of learning. Outcomes are what learners can actually do with what they know. The learner must be able to implement the learned things. OBE systems focus on increasing students’ learning and ultimate performance abilities to the highest possible levels before they leave institute. Therefore, OBE specially focuses on design of curriculum, its effective delivery and assessment to achieve the very objective behind learning of the courses and in turns behind completing the studies in a particular program.

Traditional (existing) education (TE) and its drawbacks

Change is the only continual thing and the only reliable factor. Therefore, question arises that how can something still with the tag of traditional be well fit for us. Our education system inappropriately comes with the same tag and is strictly a pen and paper system. Unfortunately, in existing Indian education system, practical approach of gained knowledge is missing.

i. Traditional Education system focuses on treating every child equally.
ii. The wrong education leads to wrong career choices.
iii. Here more emphasis is on content and quantity.
iv. Lack of emphasis on soft skills.

OBE’s instructional planning process is a reverse of that associated with planning of traditional one. The desired outcomes are selected first and the curriculum, instructional materials and assessments are created to support the intended outcome. All educational decisions are made based on how best to facilitate the desired outcomes [3].

**Key Terminologies of Outcomes Based Education**

- **Program Educational Objectives (PEO):** The broad statements that describe the career and professional accomplishments that the particular program is preparing the graduates to achieve.
- **Program Outcomes (PO):** The statements that describe what students are expected to know and be able to do by the time of graduation.
- **Course Objectives/Learning Objectives (CO):** Brief statements that describe what students will be expected to learn by the end of a study year, course, unit, lesson, project, or class period. In many cases, learning objectives are the interim academic goals that teachers establish for students so as to meet more comprehensive learning standards.
- **Course Outcomes (CO):** Course outcomes are what students are expected to know and be able to do when a course is completed.
- PEOs, POs and COs are to be aligned in such a way to meet the respective objectives.

**Learning Outcomes**

Learning outcomes are expressed in terms of “level of competence” to be obtained by the learner. Competencies represent a dynamic combination of cognitive and meta-cognitive skills, knowledge and understanding, interpersonal, intellectual and practical skills and ethical values [4].

**A learning objective from a course takes one of the two following forms:**

1. At the end of this course, the student should be able to do…
2. To do well on the next test, you should be able to demonstrate…

What follows either of these is a list of tasks that demonstrate mastery of the desired knowledge and skills. Each task statement includes one or more key action words (such as list, explain, calculate, estimate, derive, model, design, choose, and analyze) along with a definition of the task and possibly, specification of the conditions under which the task is to be performed [1]

**Bloom’s Taxonomy for Educational Objectives:**

When we start writing learning objectives, we will discover that different tasks call for different knowledge and skill levels, with a few tasks requiring only memorization to complete, whereas a majority of them calling for analytical skills and creativity. [1] A system to identify and classify learning objectives according to their expected skill levels was organized by Benjamin Bloom. The system is called ‘Bloom’s Taxonomy of Educational Objectives’.

**Three domains as per Bloom’s taxonomy**

Bloom's Taxonomy suggests three 'learning domains'. Though the language is academic, it is easy to grasp and understand these domains stated as follows:

1. Cognitive domain (intellectual capability, i.e., knowledge, or 'think')
2. Affective domain (feelings, emotions and behavior, i.e., attitude, or 'feel')
3. Psychomotor domain (manual and physical skills, i.e., skills, or 'do') [5]

This has given rise to the obvious shorthand variations on the theme which summaries the three domains; for example, Skills-Knowledge-Attitude, KAS, Do-Think-Feel, etc. In each of the three domains, Bloom's Taxonomy is
based on the premise that the categories are ordered in degree of difficulty. An important premise of Bloom's Taxonomy is that each level must be mastered before progressing to the next. As such, the categories within each domain are levels of learning development and these levels increase in difficulty.

The levels for the cognitive domain (which is critical for Engineering graduates) and illustrative action words for each level are as follows: 1. Knowledge (repeating verbatim): list, state. 2. Comprehension (demonstrating understanding of terms and concepts): explain and interpret. 3. Application (applying learned information to solve a problem): calculate, solve. 4. Analysis (breaking things down into their elements, formulating theoretical explanations or mathematical or logical models for observed phenomena): derive; explain. 5. Synthesis (creating something, combining elements in novel ways): formulate, make up, and design. 6. Evaluation (making and justifying value judgments or selections from among alternatives): Determine select, critique. Levels 4 to 6 are known as the Higher Order Thinking Skills (HOTS), which the industry expects from Engineering Graduates.[1]

The simple matrix structure enables a checklist to be constructed for the design of learning programs, training courses, lesson plans, etc. Effective learning - especially in organizations, where training is to be converted into organizational results - should arguably cover all the levels of each of the domains. The learner should benefit from development of knowledge and intellect (Cognitive Domain); attitude and beliefs (Affective Domain); and the ability to put physical and bodily skills into effect - to act (Psychomotor Domain). The courses need to be designed by considering these domains and all their levels. All the courses so developed need to be delivered correctly to enable learner to achieve the overall educational objective. In the effectiveness of outcome-based education, there is vital importance to a very good coordination and linkage of curriculum designed, delivered and assessed.

Table No. 1 Three domains and their categories or levels

<table>
<thead>
<tr>
<th>Cognitive</th>
<th>Affective</th>
<th>Psychomotor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Attitude</td>
<td>Skills</td>
</tr>
<tr>
<td>1. Recall data</td>
<td>1. Receive (awareness)</td>
<td>1. Imitation (copy)</td>
</tr>
<tr>
<td>2. Understand</td>
<td>2. Respond (react)</td>
<td>2. Manipulation (follow instructions)</td>
</tr>
<tr>
<td>3. Apply (use)</td>
<td>3. Value (understand and act)</td>
<td>3. Develop Precision</td>
</tr>
<tr>
<td>4. Analyze (structure/elements)</td>
<td>4. Organize personal value system</td>
<td>4. Articulation (combine, integrate related skills)</td>
</tr>
<tr>
<td>5. Synthesize (create/build)</td>
<td>5. Internalize value system (adopt behavior)</td>
<td>5. Naturalization (automate, become expert)</td>
</tr>
<tr>
<td>6. Evaluate (assess, judge in relational terms)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Learning outcomes, especially when mapped to specific educational experiences, may also be used by students to do self-assessment of their own progress. At the same time, learning outcomes may best be used as a tool for academic and professional mobility but not as a tool to standardize curricular content at the national/international level.
Benefits of Outcomes Based Education

When a student demonstrates acquisition of knowledge, skills and competencies, as described in the Learning Outcomes, it is an indication of “quality education” [1]. Learning Outcomes is a way of understanding educational experiences. Setting Learning Objectives in advance helps teacher to select course content and decide how much time to allocate to each topic, create relevant assignments to make students practice their class learning; and design relevant tests to assess their learning. Setting such objectives is more helpful than merely prescribing the syllabus. Learning objectives may be more useful when shared with students in advance before the learning exercise begins. When students have a clear understanding of what is expected of them, it may help them to prepare themselves better and meet the expectations. They can also help assess learning and teaching methods and establish feedback mechanisms for students, employers and other stakeholders.

Expectations from students under OBE

Students are expected to be able to do more challenging tasks instead of memorizing and reproducing what was taught.

Students should be able to:
- Write project proposals,
- Complete projects,
- Analyze case studies,
- Give case presentations,
- Show their abilities to think, question, research, and
- Make decisions based on the findings.

Students are also expected to be:
- Creative, able to analyze and synthesize information,
- Able to plan and organize tasks,
- Work in a team as a community or in entrepreneurial service teams to propose solutions to problems and market their solutions.

OBE in Higher Education: Indian Status

The higher education system in India has grown remarkably, particularly in the post-independence period. It has become one of the largest systems of its kind in the world [8]. However, Indian education system is continuously facing issues like finance and management, reorientation etc.

Table No. 2 Higher Education System – A Statistical Overview Growth of Higher Education System [7]

<table>
<thead>
<tr>
<th>No. of Institutions/Enrolment</th>
<th>2011-12 (end year of XI plan)</th>
<th>2014-15 (3rd year of XII plan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universities (Central / State/Private/Inst. Established under state legislature)</td>
<td>585</td>
<td>760</td>
</tr>
<tr>
<td>Colleges</td>
<td>35539</td>
<td>38498</td>
</tr>
<tr>
<td>Enrolment in Universities &amp; Colleges (in lakh)</td>
<td>203.27</td>
<td>315.6</td>
</tr>
</tbody>
</table>

There has been phenomenal growth of higher education in India since independence. There were only 20 Universities and 500 Colleges at the time of independence. These numbers have increased by 38 times (i.e. 760) in the case of the Universities and 77 times (i.e. 38498) in the case of Colleges. Similarly, there has been tremendous growth in the enrolment also. [7] Number wise growth was adequate however, the quality component got lost. It might be due to the output orientated traditional education system. The Indian education system is now in transition state for being shifted from traditional to the OBE.
Various Government Initiatives [8]

Indian education system is aligning itself more towards outcome-based education. The government is inaugurating many new initiatives. More emphasis is on making students employable than bookworms. Some of such initiatives are:

2. Establishment of nineteen new Higher Educational Institutions. 
3. Bachelor of Vocational Studies. 
5. Ishan Vikas-Academic Exposure for North Eastern Students. 
7. SWAYAM- Study Webs of Active -Learning for Young Aspiring Minds. 

Regulatory Bodies: 
2. All India Council for Technical Education(AICTE). 

Research councils: 
1. Indian Council of Social Science Research (ICSSR), New Delhi. 
2. Indian Council of Philosophical Research (ICPR), New Delhi. 
3. Indian Council of Historical Research (ICHR). 

Indian government has started numerous programs and curricula to try to align more and more towards outcome based education. In turns it is increasing more and more approach of students towards higher and outcome based education. Following data illustrates increase in enrolment for higher education.

A comparative Study of Level wise Enrolment of Higher Education for the year 2011-12 & 2014-15 shows that enrolment of Graduate, Post-Graduate, students has increased by 55.55% & 53.71% respectively and excludes integrated courses which are 0.44% of the Total Enrolment. The overall increase in enrollment has been 58.30% during this period [9-16].

Conclusion: 
A critical study of the pros and cons of Traditional Education system and Outcome based Education system., the OBE philosophy seems to be promising solution for enhancing the employability of graduates of every stream. However, the great challenge is its implementation at all levels of education. Therefore, all the stakeholders must understand the concept and importance of OBE philosophy. Especially the teachers need to design the curriculum, deliver the same systematically. In addition, they need to check the attainment of all the implementations and go for continuous improvement of the teaching process. Adopting Outcomes Based Education will help all stakeholders – students, parents, engineering institutions, employers and government not only to improve employability of the graduating engineers but also to tap the huge global opportunities for engineering talent. In Indian scenario, it looks promising towards significant improvement in employability ratio because of good initiatives by the government through governing institutions like National Board for Accreditation (NBA), (NAAC) etc. The holistic approach of OBE implementation may help redefine the education as “Education for making living rather than only ‘Self living’.

Acknowledgment: 
We owe our special thanks to the Department of Technology, Shivaji University, Kolhapur for allowing to use the facilities at the Department. Our thanks are also due to the World Bank, the Indian NPIU and Maharashtra SPFU for funding through TEQIP III initiative to participate in this conference.
Reference:

7. MHRD, India annual report, 2015-16.
CURRICULUM REFORMS IN TEACHER EDUCATORS CURRICULUM (M.ED.)

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Teacher Education is a programme intended for teacher preparation by developing teacher proficiency and enhancing teacher competencies that would equip and empower the teacher to fulfill the duties effectively and handle professional challenges properly.

Since the teacher plays an important role in whole education system, their own education becomes a matter of vital concern.

Teacher Education in India is implemented at three levels:
1. Teacher Education for preparation of Primary teachers
2. Teacher Education for preparation of Secondary and Senior Secondary Teachers education (B.Ed.)
3. Teacher Education for preparation of Teacher Educators (M.Ed.)

The role of Teacher Educator who are prepared through Master Degree Programme (M.Ed.) is almost important for effective implementations of Teacher Education Programme at all levels.

The M.Ed. programme is a dominant postgraduate programme of Teacher Education offered by Indian Universities mainly through the Departments of Education. This course enroll variety of students with different discipline background as fresh B.Ed., B.A., B.Ed., B.Sc., B.Ed., D.Ed. with graduation, experienced primary and secondary teachers, employee working in educational administrative departments, educational officers etc.

Thus, there is a wide range of academic and professional needs of Teacher Educators to cope up with present digital as well as competitive examinations. Hence, this programme should focus on development of Teacher Educators proficiency and competency that enable and empower them to meet the requirement and challenges of their profession so, the need of curriculum reforms in Teacher Educators Curriculum.

The reform of Teacher Education has been the key concern in the reports of major Education Commissions and Committees on Education. The Education Commission (1964-66) discussed length related issues in teacher education. It recommended professionalization of teacher education, development of integrated programmes, comprehensive colleges of education and internship.

The National policy on Education (1986) recommended the teacher education to impart it a professional orientation as referred to the same concerns voiced by the earlier committees.

National Council for Teacher Education (NCTE) is the apex body for controlling Teacher Education programme working since 1978. It has brought Teacher Education Curriculum Framework in 1978 and revised it in 1988. NCTE became statutory body in 1993 by Act of parliament to maintain norms and standards of Teacher Education and brought out two Curriculum Framework on Teacher Education during 1998 and 2009 more or less these M.Ed. frameworks were adopted by majority of Indian Universities.

Justice Verma Commission (2012) stated that M.Ed. programme is extremely disproportionate to the needs and generic in nature and don’t prepare curriculum specialist and pedagogies and also do not able to specialization at different levels of School Education.

The M.Ed. programme cannot meet the requirement of Secondary Education. It is important to look at the specialization profile required for Teacher Educators in view of the fact that a variety of foundational and school subjects need to be presented.

However, the current M.Ed. Programme have generic approach to study of foundation disciplines of Sociology of Education, Philosophical, economic base of Education. As a consequence school Teachers preparation removes...
lack of socio cultural, political and economic context of School Education. 
As per recommendation of Justice Verma Committee the NCTE has brought its Regulation in 2014 and all M.Ed. programmes were tuned to two year regular semester programmes.

**Objectives of the study**
To review the M.Ed. curriculum of Shivaji University in terms of structure, working days and hours, nomenclature of the course, practicum, research, theory paper, examination system.

**Methodology**
Descriptive research, Document analysis, Content analysis and Desk analysis.

**Analysis and interpretation**

**Admissions**
During 1979 to 2007 no entrance examination for M.Ed. Course. The Admission was based on only B.Ed. course examinations. Since, 2008 to entrance exam was conducted by the Shivaji University. At least 50% marks in theory part and 50% marks in entrance examination was the criteria for edibility.

**Structure of the course**
Since 1979 to 2015 the M.Ed. course was regular one year duration.

**Nomenclature**
Since 1979 to 2007 the name of the course was Degree of Master of Education

Since the academic year 2007 Semester system was introduced and named as M.Ed. Regular one year course – Semester System, but other colleges of Education affiliated to Shivaji University Annual pattern was retained

**Working days**
Up to 2015 No. of working days were per the UGC rule but since 2015 when Two year M.Ed. course was introduced at least 204 working days each year, exclusive of the period of admission and examination and inclusion of classroom transaction, practical, field study were made essential and minimum attendance of students was made 80% for theory course and practicum and 90% for field work.

**Analysis of M.Ed. Course structure**
Since 1979 the M.Ed. Course has major emphasis on the Theoretical foundation will less practical component since 1985 the Dissertation component was included.

**M.Ed. Curriculum 1986 to 1996**
Head I Compulsory papers
1) Philosophy and Sociology of education
2) Advanced educational Psychology
3) Techniques of research in Education and educational statistics
Optional papers(Any Two)
Head II Practical Work
1) Review of one recent book on philosophy or Sociology of Education
2) Practical work on any one of the topic prescribed for paper-II

**M.Ed. Curriculum 1986 to 1996 (Continued)**
3) A Research paper-(Dissertation)
4) Educational Excursion/Case Study /Internship
Paper IV and field work
Head III Viva Voce
Total marks - Theory 500 + Practical 300 =800

**M.Ed. Course structure from 1997 to 2002**
Head I (Theory papers) -600 Marks
Paper – I : Philosophical and Sociological foundations of Education
Paper – II : Advanced Educational Psychology
Paper- IV : Landmarks in Indian Education
Optional Groups (Two Papers)
   Head II - Practical work
   1) A Research project related to any are of Educational Research
   2) One Seminar on any theme related Education
   3) Two Tutorials per Theory paper
   4) Practical work
      Head III – Viva Voce
Total Marks – 800

M.Ed. Course Structure from 2003 to 2007
   Head I: Six Theory papers compulsory out of which
      Four Compulsory Theory papers 400 Marks
      1) Philosophical and Sociological Foundations of Education
      2) Psychological Foundation of Education
      3) Methodology of Educational Research
      4) Teacher Education
      Two optional papers 200 Marks

M.Ed. Course Structure from 2003 to 2007 (Continued)
   Head II : Dissertation and Viva Voce
   Head III : Field based experiences related to Supervision and Evaluation of
   practice teaching and other aspects of School Experiences of B.Ed. programme.
      Head IV - Practicals
      1) Two optional papers - Practicals 100 Marks
      2) Twelve Tutorials
      3) One Seminar
      4) Common Practicals
      Total 1000 Marks

M.Ed. Course structure from 2008 to 2011
M.Ed. One year course in Two Semesters
   Head I: Compulsory and Optional papers

M.Ed. Semester I
Paper I : Philosophical and Sociological foundations of Education - I
Paper II : Psychological Foundation of Education - I
Paper III : Research and Statistics in Education - I
Paper IV : Teacher Education - I
Paper V : Information Technology and Educational Technology - I
Paper VI Optional paper - Field of Specialization : I Any one from the following : 100
   A – Curriculum Development – I
   B - Educational Measurement and Evaluation – I
   C – Environmental Education – I
   D – Guidance and Counseling - I
Paper VII (Optional) field of specialization Any one from the following: 100
   E – Comparative Education –I
   F – Language Education –I

M.Ed. Course structure from 2008 to 2011 (Continued)

G – Management planning and Economics of Education – I
H – Science Education –I
I – Special Education -I
   Head II- Practicals related to paper VI and paper VII
   Head III –i) Seminar
   ii) Project work, Community, Educational
   Head IV – Dissertation, Field based experiences, Development of Communication skills.

M.Ed. Semester II
   Head V – Compulsory and optional papers
   Paper VIII : Philosophical and Sociological foundations of Education –II
   Paper IX : Psychological Foundation of Education –II
   Paper X :Research in Education –II
   Paper XI : Teacher Education –II
   Paper XII : Information Technology and Educational Technology -II
   Paper report
   Head VI –
   Practicals related to paper XIII and XIV
   Field of specialization –II
   Head VII
   Field based experiences related to practice teaching II
   Head VIII
   Dissertation work and Viva Voce
   i) Dissertation
   ii) Viva Voce
   Head IX
   Computer skill training /Assignment/Educational Tour/Visits
   Total of Semester first and semester second is 1700

M.Ed. Two-Year Semester Course Structure since 2015

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Component</th>
<th>Semester I</th>
<th>Semester II</th>
<th>Semester III</th>
<th>Semester IV</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Compulsory Papers</td>
<td>03 Papers 300 Marks (12 Credits)</td>
<td>03 Papers 300 Marks (12 Credits)</td>
<td>03 Papers 300 Marks (12 Credits)</td>
<td>01 Paper 100 Marks (4 Credits)</td>
<td>10 Papers 1000 Marks (40 Credits)</td>
</tr>
<tr>
<td>2</td>
<td>Optional Papers (Any One)</td>
<td>01 Paper 100 Marks (4 Credits)</td>
<td>01 Paper 100 Marks (4 Credits)</td>
<td>-</td>
<td>-</td>
<td>02 Papers 200 Marks (8 Credits)</td>
</tr>
<tr>
<td>3</td>
<td>Specialization Papers ( Ele.Edu./Sec.&amp;Sr. Sec. Edu.) ( Any one)</td>
<td>-</td>
<td>-</td>
<td>01 Paper 100 Marks (4 Credits)</td>
<td>03 Papers 300 Marks (12 Credits)</td>
<td>04 Papers 400 Marks (16 credits)</td>
</tr>
</tbody>
</table>
4. **Ability / Skill Enhancement Courses**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Marks/Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Comm. Skill ; Aca. Writing; Expository Writing; Self Development &amp; Yoga Education</td>
<td>75 Marks (3 Credits)</td>
</tr>
</tbody>
</table>

   | (ii) ICT & E-Education          | 100 Marks (4 Credits) | 100 Marks (4 Credits) | - | 200 Marks (8 Credits) |

5. **Dissertation**

<table>
<thead>
<tr>
<th>Marks/Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 Marks (1 Credit)</td>
</tr>
</tbody>
</table>

M.Ed. Two-Year Semester Course Structure since 2015 (Continued)

6. **Educational Tour/Visits**

<table>
<thead>
<tr>
<th>Educational Tour/Visits (Teacher Education)</th>
<th>Marks/Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Internship - I &amp; II</td>
<td>25 Marks (1 Credit)</td>
</tr>
</tbody>
</table>

   | **Internship (Specialization) –I & II (Ele.Edu./Sec.Edu.) | - | - | 50 Marks (2 Credits) | 100 Marks (4 Credits) |

7. **Practicum (Specialization) - I & II (Ele.Edu./Sec.Edu.)**

<table>
<thead>
<tr>
<th>Marks/Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Marks (2 Credits)</td>
</tr>
</tbody>
</table>

8. **Viva-voce (Dissertation)**

<table>
<thead>
<tr>
<th>Marks/Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Marks (2 Credits)</td>
</tr>
</tbody>
</table>

**Total of Semester I,II,III & IV and ISB**

<table>
<thead>
<tr>
<th>Marks/Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2500 Marks (104 Credits)</td>
</tr>
</tbody>
</table>

Conclusions
1) Since 1979 to 2014 the M.Ed. course was one year Regular course.
2) Since 2008 the one year M.Ed. course is divided into two semesters.
3) Objectives of the course are more elaborated in every M.Ed. Curriculum.
4) The total weight of marks from 600 to 1700 (up 2014) and 1700 (since 2015) is given to M.Ed. curriculum.
5) Internship as a field based experiences was included since 2008.
6) Dissertation was compulsory since the beginning.
7) Up to 2014 the M.Ed. programme was generalist in nature and do not prepare curriculum developers and pedagogies and was also do not enable specialization at different levels of school education and cannot meet the requirement of elementary teacher education as it was designed primarily on the requirement of secondary education.
8) Since 2015 M.Ed. programme became two-year duration with adequate provision to branch out into specializations in curriculum studies, pedagogic studies, policy, finance and foundational studies.
9) Development of communication skills and computer skills training was introduced since 2003.
10) Educational tour is a part of curriculum throughout the years.
11) Ability/skill enhancement course and practice teaching remained as Internship was added since 2015.

Recommendations
1) Digital communication technology must be integrated in curriculum.
2) Constructivist approach of critical pedagogy should be incorporated.
3) M.Ed. Programme should be integrated with B.Ed. as B.Ed. M.Ed. and /or with masters as M.A. M.Ed. and M.Sc. M.Ed.
4) B.Ed. M.Ed. Programme should be made compulsory to all Post Graduate Students.
5) Internship related to Innovative teaching practices with reference to digital technology can be conducted for the post graduated course for all disciplines.

References
ISSUES IN CURRICULUM CONSTRUCTION AND DEVELOPMENT:
CAMBRIDGE BEC A CASE STUDY OF CSIBER.

Dr. R.P. Joshi
Associate Professor CSIBER, Kolhapur

Abstract:
English is accepted as the first language of exchange in the world. This exchange is of different type in nature. It has colonial streak of impact & influence of British political ideology on India as a country. And as a system it also impacted Indian Education.
The then situation of being ruled by colonial stress & opportunity has turned into an event of culture and work culture at large in India today.
CSIBER the 40 years old, now autonomous institute of post graduate education in commerce & management through its visionary founder late Dr.A.D.Shinde attempted to address this issue of language education from communication point of view.
The employability matters and is directly reflected and perceived through effective and competitive communication skill. Despite of basic skills & knowledge majority of post graduate students suffer due to inadequate communication skills set. Delayed employment, wrong contextual interpretation, loss of confidence causes serious damage to the main objective and purpose of education.
CSIBER boldly tried to overcome this issue, by strategic MOU with Cambridge University UK, providing BEC certification worldwide.
This case study is factual presentation of issues in curriculum construction and development at institute. Accounting around 10 year’s experience of outcome & fulfillment of this autonomous initiative by CSIBER which is affiliated to Shivaji University Kolhapur.

Introduction
Internationally popular linguist David Crystal writes in his famous encyclopedia of Languages Why does language provide such a fascinating object of study? Perhaps because of its unique role in capturing the breadth of human thought and endeavor. We look forward in time, and find we can plan only through language. Alongside this, there is the importance we attach to language, as means of understanding ourselves and our society, and of resolving some of the problems and tensions that arise from human interaction. No sector of society is unaffected, and all can benefit from the study of the linguistic factors that constitute a barrier, as well as a means of communication but linguistic problems rarely admit simple solutions, and it is this elementary observation that has led to the present work.

Indian continent and English
“Rise and Spread of English in British India" by Astik Madhav examined the history of rise and spread of English in British India from an Indian perspective. The re-reading will provide the current scenario of English as a subject of study in the independent India. Lots of changes it had witnessed from the day it had been dragged into India due to the acceptance of Macaulayan Minute on Education (1835). Macaulay had favored English to be introduced in India just because the British needed the clerks for administration and mediators to carry out their orders in British India. Taking Macaulay’s Minutes on Education (1835) as a primary resource, this dissertation critically compares it with gradually emerged trends in the field of English studies in post-independent India.
A book archived with the help of Microsoft corporation titled “A history of English education in India : its rise, development, progress, present condition and prospects, being a narrative of the various phases of educational policy and measures adopted under the British rule from its beginning to the present period, 1781 to 1893. It is
written by Mahmood Syed, elaborating the then situation has been the biggest trigger to change bring change to the country and its education through English.

Isolating the political and social debate, it is evident that it created a change and impacted our society with different perspective not so suitable and easily adaptable model for free India where free knowledge transfer could be channelized to the ideal outcome and employability of the new educating generations.

It has not only impacted our culture but work culture at large. Style and methods of using English has been essentially carrying impressions by that Indian generation who were taught English as the first language even though they were non natives of uk.

This is typical in nature which can be described as colonial stress on how to use the foreign language at non native places on the non natives without choice; because it was the carrier of new ideas and new cultural impressionism of style and status.

This is so much so that even today in any corner of the country; the first basic wish of any parent is to educate his children in English medium school. This association of modernity and new ideas as well as status of English was an opportunity for change from the then times till now.

**Case Example of CSIBER an autonomous Institute**

Chhatrapati Shahu Institute of Business Education and Research Kolhapur, popularly known as CSIBER, was established in 1976. CSIBER is one of the few institutes in Maharashtra catering to the needs of Quality Higher Education providing professional education, training and skill development to the youths of country. In order to further improve the academic standards, the Institute opted for Autonomy in 1995.

"To be an Institute of First Choice of Students" is the mission being realized by the stakeholders of this institute. CSIBER is the first in Maharashtra to venture in Academic Autonomy under UGC and Shivaji University. Re-accredited for 'A+' Grade in the 3rd cycle.

Late Dr. A. D. Shinde, and then the Dean of Commerce faculty of the Shivaji University was the founder of the institute. whose tireless efforts and dedication, with a missionary zeal, resulted in the present Institute being set up. Late Dr. Shindes’ clear understanding about employability and knowledge has been witnessed by many in the campus and jurisdiction of CSIBER and Shivaji University for many years. Addressing the academic issues in a different innovative manner by inviting and employing new and talented faculty, to was his main motif. His last speech before death, during the felicitation at the age 75 underlines his core wish to continuously work on this problem of improving students communication skills and knowledge. It is his directives which have led to address the common problem of language proficiency and professional communication development at CSIBER.

Initially, during completely affiliated to Shivaji University status of institute it followed the syllabi of communication or language whichever provided by university BOS. Founder being associated with IIMs nationally, it had a role model impression on conduct of various courses like MSW, MBA, MCA etc. Generally faculty of English used to teach subjects like written analysis and communication (MBA) which was changed to written and oral communication.

Being autonomous the system at CSIBER is sensitive and reflective enough to change according changes in the social and global phenomenon. The spirit of solving these issues and problem of improving communication led to very constructive multidimensional solutions pouring in how and why This changed many think & because changing language usage pattern is posing continuous challenge to all non native users of language.

In an exclusive account of language teaching in paper titled A Brief History of English Language Teaching in India M. Vijayalakshmi *, Dr. Manchi Sarat Babu** mentions, English is a widely spoken language today. It has often been referred to as ‘global language’, the lingua franca of the modern era and currently the language most often taught as a second language around the world. English in India is used not only for communicating with the outside world, but also for inter-state and intrastate communication. Because of the great ethnic and linguistic
diversity found within our nation, English acts as an indispensable ‘link’ language. With the Information Technology revolution and most software and operating systems being developed in the English language, a new utility for written and oral communication in the English language has emerged.

Table showing the various issues and challenges addressed by CSIBER to improve student communication at PG level courses

<table>
<thead>
<tr>
<th>Timeline</th>
<th>Academic Consideration</th>
<th>Action</th>
<th>Expectation</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976 to 1995</td>
<td>Non autonomous As per university designed syllabus</td>
<td>Appointing competent and innovative teachers who taught communication or English by First language method</td>
<td>Course objectives fulfilled. Proficient communication at the time of passing out.</td>
<td>Competent post graduates created in various fields however there is no feedback mechanism to measure language skill contribution in course or employment. Gap in employability and knowledge ability felt but not measured.</td>
</tr>
<tr>
<td>1995 to 2001</td>
<td>Autonomous Syllabus designed by Institute</td>
<td>Syllabus for communication improved</td>
<td>Course objectives fulfilled. Proficient communication at the time of passing out.</td>
<td>Competent post graduates created however no feedback mechanism to measure contribution of course</td>
</tr>
<tr>
<td>2001 to 2006</td>
<td>Autonomous Syllabus designed by Institute</td>
<td>Additional certificate course introduced. Cambridge LIU introduced</td>
<td>Course objectives fulfilled. Additional efforts reflected</td>
<td>Competent post graduates created where LIU was added however there is little judgmental, verbal feedback</td>
</tr>
<tr>
<td>2006 to 2009</td>
<td>Cambridge LIU continued</td>
<td>Carried out in available possible way</td>
<td>Change acceptance and goal reaching</td>
<td>Competency improved but globalization takes the toll of population forced to use English in communication</td>
</tr>
</tbody>
</table>
2009 to 2017 | MOU with Cambridge University UK. Revised once. Appreciated by NAAC. | BOS made separately for communication. All necessary inputs taken from experts. BEC introduced. Separate exam system developed for all 4 skills. New paper communication at work for second year introduced.(seminar). BOS merged in General Management BOS. Parallel paper on managerial communication introduced. Motivational change brought in goals ascertained. Transfer in the communication culture of inst. Employability due to international certification improved. | Around 300 students per year gave BEC exam as per international standards. Employability improved due to Cambridge branding. No direct check possible on ability to communicate in recruitment so Contribution of BEC in candidate as well as course remains unmapped. In tangible. Student interaction time increased more than average compared to other subjects.

Discussion

The issues in language education

1. Education, through autonomous or affiliated colleges’ language at work being used varies, from place, age group, situation and purpose.
2. Medium of instruction may be English, but in practice native language is mixed and non deliberative code switching takes place (Use of both the languages).
3. Statutory bodies like board of studies or other upper authority structure of education system cannot solve all the issues related to a course. Interdisciplinary matters can’t be addressed or even discussed due to jurisdiction of such systems, where rigidity becomes precedence for decisions and greater rationality is lost in the process.
4. Recruiters eligibility is never checked systematically. Hence comments, decisions and selection of fresh candidates made efficiency by them cannot be considered as a benchmark communicative of a person for life time.
5. Claiming English as a global language is very serious thought at the moment as many languages are actually dying due to changing ways we communicate. Especially with technology.

Issues in curriculum development

1. Curricula developed on the basis of need of organizational objectives or judgmental belief of few experts creates inadequate executable structure with stakeholders.

2. Measurement of language proficiency has to be benchmarked in India or all such non-native users.

3. Unanimity of opinion or judgment and decision based on it may not lead to desired effects all the time.

Conclusion

In the changing global scenario, world has been brought closer however, English alone cannot be the only platform for transfer of knowledge.

Preserving and marinating the standards and reaching the very purpose of communication is important issue.

It should be addressed by all and a special live forum may be created to discuss, sort the issues related to communication and using English at various situations.

Ref:


A Brief History of English Language Teaching in India:M.Vijayalakshmi *, Dr. Manchi Sarat Babu**


ROLE OF TEACHERS IN 21ST CENTURY

Prof. Pratibha Sadashiv Desai
Assistant Professor,
Acharya Jawadekar College of education, Gargoti, Maharashtra, India

Abstract

A growing number of business leaders, politicians and educators are united around the idea that students need “21st century skills” to be successful today. It’s exciting to think that we live in times that are so revolutionary that they demand new and different abilities in the 21st century classroom teachers are facilitators of student learning and creators of productive environments, in which students can develop the skills they might need at present or in future. So it is important to highlight the value of these new education skills. Which are necessary for teachers & students also the key purpose of this paper is to study 21st century skills in education for the student. To develop these skills among the students what will be the role of teacher in 21st century.

Keywords :- The role of Teacher, 21st century

Introduction

The evolved 21st century classroom is a productive environment in which students can develop the skills they will require in the work place and teachers are facilitators of their learning. The focus of a 21st century classroom is on students experiencing the environment they will enter as modern day workers and developing their higher order thinking skills, effective communication skills, collaboration skills, making them adept with using technology and all other skills that they will need in the 21st century workplace.

The educational practice of the traditional classroom are no longer effective and teachers must develop new teaching strategies that are radically different from those employed in traditional classrooms. Nowadays the classrooms are student centered & the teachers are the facilitators and guides instead of being mere providers of knowledge. They must ensure that they engage their students in learning and provide effective instruction using a variety of instructional methods and following different pedagogical approaches aided with technology. They should be active participants in their own learning and must seek out professional development to improve their performance and their students’ learning.

Objectives of the paper-

1) To study the 21st century skills in education for the student.
2) To study the role of Teacher in 21st century.

Need and importance of the paper-

1) present paper is important for every teacher working at primary, secondary, higher secondary level.
2) Every teacher will know 21st century skills which are necessary for student & teacher. Such as critical thinking skills, oral presentation skills, communication skills, use of technology skills, social skills, creativity etc.

21st century skills in Education for the student

In new age of education it is important to allow students creativity and use the power of technology to support necessary skills and learn in unique ways. The future of our students depends on flexibility and resourcefulness. It also highlights how Teacher can link students’ current knowledge with authentic experiences that motivate, as well as allow them to create and collaborate using the latest technologies.
The 21st century skills in Education for the students are as follows.

1) Critical thinking and problem solving (Analysis, synthesis, application)
2) Collaboration (use of various learning strategies)
3) Communication (Social skills)
4) Creativity (utilization of knowledge)
5) Citizenship (to be in touch with culture and community)
6) Media Literacy
7) Technology literacy
8) Character Education (Gender equality, Helps to become responsible)
9) Project-Based learning - student centric Teaching
10) Innovation - use of various Teaching methods, Evaluation methods.
11) Adaptive learning - for student of different types of learning abilities Adaptive learning gives freedom to learn at their own pace and software’s are available for adaptive learning.
12) Invitational environment - use of Interactive board, LCD projectors, The BYOD (Bring-Your-own-Device) Approach (Bring their own laptops Tablets)
13) Well Disciplined environment and mutual respect.
14) Performance-based assessments- (Quizzes, polls assessments are tailored to the abilities and needs of the students)

To develop above skills among the students, Teacher role is very important in 21st century.

**Role of Teacher in 21st century**-
Teaching in the 21st century is an altogether different phenomenon.

**Role of Teacher in 21st century.**
1) Learner centered classroom and personalized Instructions
2) Learn new Technologies (www.lynda.com-manyresources for learning new Technologies)
3) Go global (Media use)
4) Go Digital (Sharing Links, offering digital discussion)
5) Collaborate- (creating digital resources, presentation, projects, e-mail, ppt presentations)
6) Use of social media (Twitter, what’s up, hike etc)
7) Project- Based learning- student centric Teaching
8) Innovation- use of various Teaching methods, Evaluation methods.
9) Adaptive learning- for student of different types of learning abilities Adaptive learning gives freedom to learn at their own pace and software’s are available for adaptive learning.
10) Invitational environment- use of Interactive board, LCD projectors, The BYOD (Bring-Your-own-Device) Approach (Bring their own laptops Tablets)
11) Well Disciplined environment and mutual respect.
12) Performance-based assessments- (Quizzes, polls assessments are tailored to the abilities and needs of the students)
13) The resource- Teacher must be a kind of walking resource center.
14) The participant.
15) The tutor (coach)- (way to pay individual attention to identify specific student needs.
16) Facilitator- Guidance for whole personality development.

Thus the role of Teacher in 21st century is very important to develop both personalities i.e. student and Teacher personality also.
Conclusions-
Form objective 1 and 2

Objective 1: To study the 21st century skills in education for the student

Conclusion-
The 21st century skills in education for the students’ are critical thinking, collaboration, communication, creativity, media and Technology literacy, character education.

Objective 2: To study the role of Teacher in 21st century

Conclusion-
A big role of teacher in developing students overall personalities. Because of role of 21st century Teacher classrooms enhance the learning experience and better prepare students for higher education and for all-round personality.

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A COMPARATIVE STUDY OF SCIENCE TEXT BOOKS OF IX STANDARD OF CBSE AND SSC BOARD REGARDING SCOPE OF SCIENCE PROCESS SKILLS

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Abstract:-
Curriculum serve as mean to inculcate various skills, values and attitude along with expected cognitive outcomes. NCF-2005 gave focus on process validity regarding science education. But, still some lacunas are seen in present curriculum of secondary and higher secondary level. By keeping view of this and considering the importance of science process skill, researcher analysed comparative study of CBSE and SSC Board’s IX Standard science text books. Researcher used percentage technique of descriptive method of analysis. The findings showed that integrated science process skills are reflected at very low where as basic science process skills reflected at more extent. Both CBSE and SSC board textbooks has not significant difference regarding science process skills. But there are some variations regarding percentage of few basic as well as integrated science process skills.

Keywords: - Science Process Skills, Text Book Analysis..........

Introduction:-
‘Change’ is important to maintain fluidity of each aspect of life. Curriculum is a essential tool in teachers hand by which teacher can inculcate skills, attitudes and values. Also teacher evaluates the cognitive and psychomotor outcomes.
In Position paper of National Focus Group on teaching of science, NCERT highlights the process validity of curriculum.
“Curriculum engage the learner in acquiring the methods and processes that lead to generation and validation of scientific knowledge and nurture the natural curiosity and creativity of the child. Process validity is an important criterion since it helps in ‘learning to learn’ science.
NCERT
Thus science learning must include the process approach. So, the term “Science process Skill” holds nuclear position of science education.

Science Process Skill(SPS):-
Science process skills are defined as a set of broadly transferable abilities appropriate to many science disciplines and reflective of behaviour of scientists.(AAAS- SAPA: Project 2009)
The American Association for Advancement of science launched a project named “SAPA- Science A Process Approach. They classified science process skills into basic and integrated skills. Basic science process skills (BSPS) includes observing, classifying measuring, using space time relationships, using number, inferring, predicting and communicating. Whereas Defining variables operationally, Identifying and Controlling variables, Interpreting data, Hypothesizing and Experimenting were included in integrated science process skills.(ISPS)
With this theoretical background researcher conducted a comparative study comprising analysis of IX standard science textbooks of CBSE and SSC board regarding reflected science process skills through content. So, Objectives of study as follows:-

Objectives:
1. To Find out science process skills reflected through IX standard science textbook of SSC board.
2. To Find out science process skills reflected through IX standard science textbook of CBSE board.
3. To compare the IX standard science textbooks of SSC and CBSE board regarding Science process skills.
Methodology:
As per the nature of objectives, researcher had choose descriptive method. In this, researcher conducted a documentary analysis of IX standard science text book of SSC board and CBSE board.
For documentary analysis of SSC board Textbook, researcher has selected 9 chapters out of 17 chapters. Selection of content was on the basis of nature of chapters. Researcher categorised all the chapters into 3 categories depending on nature of content, Researcher has selected two categories . The chapters are in these categories are helpful for acquisition of majority of the science process skills. Thus 9 chapters of SSC Board text book were used for content analysis. Out of which 5 were from A category and 4 from B category. Similarly, selection of chapters done for CBSE board Text book. Thus 9 chapters out of 15 were selected for content analysis. Based on the behaviour indicators of science process skills, researcher identified the science process skills reflected through the selected content.

Sampling:-
For documentary analysis, researcher has selected 9 chapters out of 17 chapters of IX standard science textbook. As per the Earlier discussion of methodology, researcher has selected Out of 9 chapters from “A” category and 4 chapters from “B” category. Similarly 9 chapters out of 12 were selected from CBSE board textbook.

Analysis and interpretation of data:-
To identify reflected science process skills from IX standard science textbook researcher used percentage technique. Following table shows percentage of reflected skill.

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Chapter No.</th>
<th>Reflected Science Process Skills(%) [SSC Board]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>O</td>
<td>C</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>18.18</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>20.5</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>22.5</td>
</tr>
<tr>
<td>4</td>
<td>12</td>
<td>30</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>24.63</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>53.33</td>
</tr>
<tr>
<td>7</td>
<td>13</td>
<td>24.32</td>
</tr>
<tr>
<td>8</td>
<td>16</td>
<td>9.52</td>
</tr>
<tr>
<td>9</td>
<td>14</td>
<td>43.75</td>
</tr>
</tbody>
</table>

Table No. 1. Reflected Science Process Skills through IX Standard Science Text Book of SSC Board

Abbreviations:-
O- Observing     C- Classifying     M- Measuring     U- Using space- time relationship
N-Using number   P- Predicting   In- Inferring   Cm- Communicating
Based on the above table, researcher prepared an integrated table showing integrated percentage of all science process skills. This table is as follows:

<table>
<thead>
<tr>
<th>Name of the science process skills</th>
<th>Percentage of reflected science process skills(Integrated)(%)[SSC]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observing</td>
<td>28.28</td>
</tr>
<tr>
<td>Classifying</td>
<td>7.39</td>
</tr>
<tr>
<td>Measuring</td>
<td>0.8</td>
</tr>
<tr>
<td>Using Space time relationship</td>
<td>6.13</td>
</tr>
<tr>
<td>Predicting</td>
<td>1.51</td>
</tr>
<tr>
<td>Using Number</td>
<td>12.59</td>
</tr>
<tr>
<td>Inferring</td>
<td>16.78</td>
</tr>
<tr>
<td>Communicating</td>
<td>15.86</td>
</tr>
<tr>
<td>Identifying and controlling Variables</td>
<td>0.53</td>
</tr>
<tr>
<td>Defining variables Operationally</td>
<td>0.625</td>
</tr>
<tr>
<td>Hypothesizing</td>
<td>0.59</td>
</tr>
<tr>
<td>Interpreting data</td>
<td>1.84</td>
</tr>
<tr>
<td>Experimenting</td>
<td>7.86</td>
</tr>
</tbody>
</table>

Table No. 2. Percentage of reflected science process skills (Integrated)(SSC)

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Chapter No.</th>
<th>Reflected Science Process Skills(%) [CBSE Board]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>1</td>
<td>8</td>
<td>14.05</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
<td>35.13</td>
</tr>
<tr>
<td>3</td>
<td>11</td>
<td>16.92</td>
</tr>
<tr>
<td>4</td>
<td>12</td>
<td>23.25</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>37.5</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>29.62</td>
</tr>
<tr>
<td>7</td>
<td>3</td>
<td>11.53</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>34.37</td>
</tr>
<tr>
<td>9</td>
<td>7</td>
<td>33.33</td>
</tr>
</tbody>
</table>

Table No. 3. Reflected Science Process Skills through IX Standard Science Text Book of CBSE Board
Observation:-
From above table it is observed that,
1. Observing skill has highest percentage (28.28%).
2. Measuring, Predicting, Identifying and controlling variables, Defining variables operationally and hypothesizing have lowest percentage.
3. Inferring, Communicating, Using number, classifying and Experimenting have moderate percentage.

Interpretations:
1. Percentage of Basic science process skills were More. Except measuring and predicting.
2. Integrated process skills were shows Very low percentage.

Result:
1. Integrated science process skills have very less scope to reflect through content of IX standard Science textbook of SSC board.
Based on the above table, researcher prepared an integrated table showing integrated percentage of all science process skills. This table is as follows:

<table>
<thead>
<tr>
<th>Name of the science process skills</th>
<th>Percentage of reflected science process skills(Integrated)(%)[CBSE]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observing</td>
<td>26.02</td>
</tr>
<tr>
<td>Classifying</td>
<td>2.16</td>
</tr>
<tr>
<td>Measuring</td>
<td>4.1</td>
</tr>
<tr>
<td>Using Space time relationship</td>
<td>0.46</td>
</tr>
<tr>
<td>Predicting</td>
<td>1.26</td>
</tr>
<tr>
<td>Using Number</td>
<td>14.75</td>
</tr>
<tr>
<td>Inferring</td>
<td>19.78</td>
</tr>
<tr>
<td>Communicating</td>
<td>18.57</td>
</tr>
<tr>
<td>Identifying and controlling Variables</td>
<td>2.79</td>
</tr>
<tr>
<td>Defining variables Operationally</td>
<td>0.625</td>
</tr>
<tr>
<td>Hypothesizing</td>
<td>1.45</td>
</tr>
<tr>
<td>Interpreting data</td>
<td>0.5</td>
</tr>
<tr>
<td>Experimenting</td>
<td>7.36</td>
</tr>
</tbody>
</table>

Table No. 4. Percentage of reflected science process skills (Integrated)(CBSE)

Observation:-
From above table it is observed that,
1. Observing skill has highest percentage (26.02%).
2. Classifying, Measuring, Predicting, Identifying and controlling variables, Defining variables operationally, Interpreting data, Using space time relationship and hypothesizing have lowest percentage.
3. Inferring, Communicating, Using number and Experimenting have moderate percentage.

Interpretations:
1. Percentage of Basic science process skills were More. Except measuring, classifying and predicting.
2. Integrated process skills were shows Very low percentage.
1. Integrated science process skills have very less scope to reflect through content of IX standard science textbook of CBSE Board.

   Following table shows comparative percentage of reflected science process skills from IX standard science textbooks of SSC and CBSE board.

<table>
<thead>
<tr>
<th>Name of the science process skills</th>
<th>Percentage of reflected science process skills (Integrated) (%) [SSC Board]</th>
<th>Percentage of reflected science process skills (Integrated) (%) [CBSE Board]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observing</td>
<td>28.28</td>
<td>26.02</td>
</tr>
<tr>
<td>Classifying</td>
<td>7.39</td>
<td>2.16</td>
</tr>
<tr>
<td>Measuring</td>
<td>0.8</td>
<td>4.1</td>
</tr>
<tr>
<td>Using Space time relationship</td>
<td>6.13</td>
<td>0.46</td>
</tr>
<tr>
<td>Predicting</td>
<td>1.51</td>
<td>1.26</td>
</tr>
<tr>
<td>Using Number</td>
<td>12.59</td>
<td>14.75</td>
</tr>
<tr>
<td>Inferring</td>
<td>16.78</td>
<td>19.78</td>
</tr>
<tr>
<td>Communicating</td>
<td>15.86</td>
<td>18.57</td>
</tr>
<tr>
<td>Identifying and controlling Variables</td>
<td>0.53</td>
<td>2.79</td>
</tr>
<tr>
<td>Defining variables Operationally</td>
<td>0.625</td>
<td>0.625</td>
</tr>
<tr>
<td>Hypothesizing</td>
<td>0.59</td>
<td>1.45</td>
</tr>
<tr>
<td>Interpreting data</td>
<td>1.84</td>
<td>0.5</td>
</tr>
<tr>
<td>Experimenting</td>
<td>7.86</td>
<td>7.36</td>
</tr>
</tbody>
</table>

Table No. 5  Comparison of percentage of reflected science process skills of SSC and CBSE Board

Observation:-

- From above table it is observed that,
  1. Observing skill has highest and equal percentage in SSC and CBSE textbook.
  2. Percentage of classifying, using space time relationship and interpreting data these skills are more in SSC board textbook than CBSE board textbook.
  3. Inferring, Communicating, Identifying and controlling variables and Hypothesizing are slightly more in CBSE board textbooks than SSC board textbook.
  4. Percentage of Observing, Predicting, Using Number, Defining variables operationally and Experimenting Skills are nearly equal in both CBSE and SSC Board textbooks.

Interpretations:

- 1. Percentage of Basic science process skills were more as compared to integrated science process skills in both CBSE as well as SSC board text books.
- 2. Integrated process skills were shows Very low percentage in both CBSE as well as SSC board text books.
- 3. Percentage of basic as well as integrated skills are nearly equal in both CBSE and SSC board textbook

Result:-

- 1. Integrated science process skills have very less scope to reflect through content of IX standard science textbooks of SSC and CBSE board.
2. Percentage of reflected science process skills are nearly equal in both CBSE and SSC board IX standard science textbooks.

Following bar graph shows comparison of reflected science process skills from IX standard science textbook of SSC and CBSE board.

Based on the analysis, following conclusions drawn.

Conclusions:
1. Integrated science process skills have very less scope to reflect through content of IX standard science textbooks of SSC and CBSE board.
2. Percentage of reflected science process skills are nearly equal in both CBSE and SSC board IX standard science textbooks.

Discussion of Conclusions:
Findings of this research study, underlines the poor level of integrated science process skills. Integrated skills have difficulty level higher than that of basic science process skills considering the age group of IX standard.
Hypothesizing and experimenting skills are important for science learning but both board’s syllabus of IX standard science have not much scope to reflect these skills.

Though the reflected science process skills from both boards seems to be equal superficially but there are some variations are seen regarding the classifying and interpreting data. Such variations are seen due to different syllabus regardless same curriculum frame work. Some chapters of CBSE board like atoms and molecules, structure of atoms, fundamental unit of life, tissues were included in previous standards of SSC board with varied difficulty level of content. So, here we can seen slightly more percentage of basic science process skills than CBSE board.

Result shows that integrated science process skills were reflected poorly in both boards but still considering the hypothesizing and identifying and controlling variables these important skills have slightly more scope in CBSE board than SSC board.

Experimenting skill is fundamental skill of science learning. Though the percentage of this skill is seem to be equal in both boards but the same skill reflected in CBSE board compromises majority of behavioural indicators of this skill. Thus, Experimenting skill can be inculcated effectively by the activities mentioned in CBSE board textbook regardless the percentage of reflection of this skill.

Percentage of measuring skill is more in CBSE board because many activities are framed regarding this skill in the textbooks. Percentage of using space time relationship is more in SSC board because in the chapter ‘laws of motion’ content is dipper which includes graphs regarding time, space and speed. Predicting is a basic science process skill but still both boards textbook don’t have enough scope to develop this skill.

References:

STUDY OF PERCEIVED ATTITUDE TOWARDS CURRICULUM AND TEACHERS AMONG POST GRADUATE STUDENTS

Mr. Vidyanand Khandagale and Miss. Supriya Chougale
Department of Education, Shivaji University, Kolhapur

Abstract:
Curriculum is the backbone of any course as it enables people to make sense of our lives and the world around them. Individuals use curriculum with varying degrees of intentionality to interpret events, to deepen their understanding of what they learn and who they are as learners, and to create a shared experience for teaching and learning. Teacher as a facilitator plays key role in the implementation of curriculum. One of the important function of higher education is to provide society with competent men and women train in agriculture, arts, medicine, science and technology and various other professions, who will also be cultivated citizen individuals imbued with a sense of social justice. In the present study researchers had made an attempt to explore the post graduate students perceived attitude towards Curriculum and teachers. It was found that most of students from all four faculty feels proud of and respect their teachers. The curriculum of the course is developing their personality and they will acquire the job after the completion of the course was the responses of all four faculty students.

Key words: Perceived Attitude, Curriculum, Teachers, Post graduate students

Introduction
Higher education empowers an individual to make the best use of their skills, Knowledge and of the opportunities offered by society for self-fulfilment. Higher education encourages the development of a reflective capacity by developing Critical and Rational thinking. It enhances the capability of an individual and make capable to acclimatization the present system, structure and accordingly mould an individual.

Higher education is very essential as it contributes in creation and evaluation of knowledge, it engages in the pursuit of academic scholarship and intellectual inquiry in all fields of human understanding, through research and learning which eventually create a humanistic citizen having scientific attitude. The purpose of Higher Education is to cater the learning needs and aspirations of individuals through the development of their intellectual abilities, aptitudes and interest throughout their lives. Higher Education recognizes the needs of society along with the demand of the market in the era of globalisation. Higher education educates and trains people to fulfill the social functions, enter in the professions, pursue in administration, trade, industry, science and technology and the arts.

For societies higher education is assumed to be the key to technology, productivity and the other ingredient of competitive and economic growth. Territory or higher education also shapes and preserves the value that defines a culture. And it is believe to be major engine of social justice, equal opportunity and democracy. The curriculum and teachers are the backbone of the Education system. They are interdependent and haves very strong relationship.

Attitude
Attitudes are the ideas that an individual has about an object; a thing or situation and which are influenced by the emotion beliefs prejudices, biases or predispositions. They depend upon the individual experience at the intellectual biological, social and emotional level, that is, how he perceives a given things object and so on. Thus one’s behaviour largely depends upon one’s attitude, moreover, different person’s attitude towards the same thing would be different as it depends their perceptions at their intellectual emotional, social biological level. Thus study of attitudes, thus focuses on how individual acquires favorable or unfavourable attitude toward person, objects, things, and situation and so on.

According to Thurstone and Clave (1929) attitude is “the sum of total of a man’s inclination and feelings prejudices or biases, ideas, fear threats and convictions about any specific topic.” G.W. Allport (1935) rightly observes, “The concept of attitude is probably the most distinctive and indispensable concept in contemporary social psychology.” After a long gap of about sixty years perhaps the validity of the above statement stands.
Murphy, Murphy and New Comb (1937) have also emphasized the above points. They hold that perhaps no single concept within the whole realm of social psychology occupies a more nearly central position than that of attitudes. Social psychologists hardly show any uniformity in giving a definition of attitude. Some behaviouristically inclined social psychologists refer to the attitudes as conforming behaviour. The behaviour is directed towards a particular standard or norm.

According to Murphy and Murphy, attitude is primarily a way of being set towards or against certain things. Baldwin views that attitude is a readiness for attention or action of a definite pattern. In the opinion of Warren, the specific mental disposition toward an incoming experience whereby the experience is modified or condition of readiness for a certain type of activity is referred to as attitude.

Cantril holds that an attitude is a more or less permanently enduring state of readiness of mental organisation which predisposes an individual to react in a characteristic way to any object or situation with which it is related. The definition, emphasis that attitudes are to great extent responsible for the behaviour of an individual, however, behaviour is determined by characteristic of an individual as well as the situation in which he behaves. One cannot speak of conformity if there is no standard or norm. Attitudes are formed with respect to situations, persons or groups with which individual comes in contact in course of the growth and development of his personality.

**Curriculum**

The term *curriculum* refers to the lessons and academic content taught in a school or in a specific course or program. In dictionaries, *curriculum* is often defined as the courses offered by a school, but it is rarely used in such a general sense in schools. Depending on how broadly educators define or employ the term, curriculum typically refers to the knowledge and skills students are expected to learn, which includes the learning standards or learning objectives they are expected to meet; the units and lessons that teachers teach; the assignments and projects given to students; the books, materials, videos, presentations, and readings used in a course; and the tests, assessments, and other methods used to evaluate student learning. An individual teacher’s curriculum, for example, would be the specific learning standards, lessons, assignments, and materials used to organize and teach a particular course.

There are many competing definitions of Curriculum broadly speaking it is perceived in three ways: 1) from the point of view of learner’s 2) from the point of view of the teacher and the institution -school or college and 3) as a set of intentions reflected in an organized written form such as subject, content, students, programmer material etc. However, a common element that characterizes curriculum in all its different perspectives is its concern of learner (Pratt ’80:04). The central focus of any curriculum is the students. In respect of higher education, curriculum is described as “the set of broad interrelated decision about what is thought that characterize the general framework within which teaching is planned and learning takes place.

**Brief Review**

Sudaeajan (1991), Student, teacher’s attitude towards teaching and their interest in it. The variables under the present study i.e. attitude and work commitment of the teachers towards the teaching profession are very important in the field of education. These two variables are like an engine driver for the vehicle education. They directly affect the classroom processes. How best the teacher is going to serve the students will depend on the attitude of the teachers towards the teaching profession. Whether they will leave lasting impression on the minds of the students depend on the attitude and work commitment of teachers towards the teaching profession. The variable attitude and work commitment is not static but dynamic. So various factors affect teacher's attitude and work commitment of the teachers towards their teaching professions. With so many reforms in the education system we are unable to achieve the national goals and objectives. The present study is striving to analyze the different factors like pay scale, qualification, experience or gender and how they are making any kind of impact on the attitude and work commitment of the teachers towards their teaching profession. newline The main objectives of the present study
are: 1. To study the attitude of teachers working in aided and unaided schools with reference to personal variables. 2. To study the work commitment of teachers working in aided and unaided schools with reference to personal variables. 3. To compare the attitude of teachers working in aided and unaided schools with reference to personal variables. 4. To compare the work commitment of teachers working in aided and unaided schools with reference to personal variables.

Gakhar (1982) studied the effect of attitude of the teacher on mathematical concept learning of the students. It was concluded that attitude of the teacher towards teaching method, towards students discipline and towards self in the sample did not have any relationship individually with the achievement of the child in mathematics. But when these factors combine with other factors of teachers’ attitude they had significant influence on the achievement of the child and accelerated the process of learning of mathematical concepts by the pupils.

Thilakan Indu (2012) has conducted a study of attitude and work commitment of teachers towards teaching profession. The major objectives of the study were to find out the difference in the attitude of aided and unaided school teachers based on their gender and experience. The study revealed that the female teachers have got more favourable attitude than that of the male teachers. The experience more than 10 years have got more favourable attitude than that of the less than 10 years experience teachers.

Panda (2001) in his study “Attitude Towards Teaching Profession and Personality of College Teachers of Assam and Orissa” who found that majority of College teachers of Assam and Orissa have highly favourable attitude towards teaching profession. Likewise he also found that a significant percentage of teachers of Assam and Orissa have a high or moderate degree of job satisfaction (refer Chapter II pg 31). 11.11% are teachers have high Attitude Towards Teaching Profession and these few teachers may be well experienced in the teaching profession but only 7.40% of Government School Teachers have low attitude and the probable reason may be that they do not have the potentialities in the teaching.

Khandagale V.S. (2016) studied cost effectiveness of student teacher educators in relation to attitude towards Teachers’ and curriculum and found significant moderate and direct relationship between Individual cost and attitude towards teachers. The study reveals a very low and inverse relationship between Individual cost and attitude towards curriculum.

Terminologies used in the Study

Attitude towards Teachers
An Attitude towards teachers is the readiness or lack of it react in a certain way towards teachers and a predisposition to act in certain manners towards teachers which is acquired through integration and accumulation of experiences with the teachers.

Attitude towards Curriculum
An Attitude towards curriculum is the readiness or lack of it react in a certain manner towards teaching learning process, learning experiences, evaluation of its aims, Objective and Syllabus.

(Paralkar Vinda, 2003)

Objectives of the Study
1. To find out the attitude towards Teachers among Post Graduate Students.
2. To find the attitude towards Curriculum among Post Graduate students based on the faculties.

Research Design
To achieve the objectives of the study, Descriptive survey method was found appropriate, and survey was conducted to measure the attitude towards Curriculum and Teachers among Post Graduate teachers based on the faculty.

Sample of the Study
The sample of the study were 120 Post graduate students studying under various faculty and discipline was chosen. Incidental sampling technique was employed.

**Tools used for Study**

i. Attitude towards Teachers (Paralkar)

ii. Attitude towards Curriculum (Paralkar)

**Statistical Analysis**

The data was analyzed using Percentage.

<table>
<thead>
<tr>
<th>Table No.1</th>
<th>Responses of PG Students from Humanities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sr.No.</strong></td>
<td><strong>Statements</strong></td>
</tr>
<tr>
<td>1</td>
<td>I am proud of my teachers</td>
</tr>
<tr>
<td>2</td>
<td>I respect my teachers a lot.</td>
</tr>
<tr>
<td>3</td>
<td>I feel that my teachers are the best .</td>
</tr>
<tr>
<td>4</td>
<td>I feel that my teachers are partial towards some of my classmates in assessment of answer books .</td>
</tr>
<tr>
<td>5</td>
<td>I hate my teachers.</td>
</tr>
<tr>
<td>6</td>
<td>I am happy when my teachers remain absent.</td>
</tr>
<tr>
<td>7</td>
<td>Time passes very quickly when my teachers teach in the classroom.</td>
</tr>
<tr>
<td>8</td>
<td>Teachers in this Department are ill tempered.</td>
</tr>
<tr>
<td>9</td>
<td>I would not be able to pass the examination without the help of my teachers.</td>
</tr>
<tr>
<td>10</td>
<td>My teachers are available whenever I have problems related to my studies.</td>
</tr>
<tr>
<td>11</td>
<td>Teachers in this Dept. make their teaching very interesting.</td>
</tr>
<tr>
<td>12</td>
<td>I would like to meet my teachers in this Dept. even after passing Post Graduate Programme (M.Sc./M.A./M.Com..) examination.</td>
</tr>
</tbody>
</table>

From the above table No. 1 it is observed that the,

1. PG students of Humanities responses were that they are proud of Most of their teachers (55%) followed by All teachers (30%).
2. PG students of Humanities responses were that they respect Most of the teacher (40%) followed by All of the teachers (40%).
3. **PG students of Humanities responses were that their Most of teachers (35%) are best and All teachers are best (25%) followed by None of teachers (35%)**
4. PG students of Humanities responses were that they feel their Some of the teachers (25%) , Most of Teachers (15%) and All Teachers (20%) are partial towards some of my classmates in assessment of answer books followed by None of the teachers (35%).
5. PG students of Humanities responses were that they hate None of the teacher (50%) But hate (40%) teachers followed by (10%).
6. PG students of Humanities responses were that they are happy (60%) when None of the teacher teachers remain absent followed by Some of the teachers (25%).

7. PG students of Humanities responses were None of the teacher (50%) Class Time passes very quickly when teachers teach in the classroom followed by Some of the teachers (30%).

8. PG students of Humanities responses were None of the teachers (60%) are ill tempered followed by Some of the teachers (25%).

9. PG students of Humanities responses were that they would not be able to pass the examination without the help of teachers i.e. All of the teacher (55%) followed by Most of the teachers (25%).

10. PG students of Humanities responses were that All of the teacher (50%) followed by Most of the teachers (35%) are available whenever I have problems related to my studies.

11. PG students of Humanities responses were that of Most of the teacher (55%) followed by All of the teachers makes (35%) their teaching very interesting.

12. PG students of Humanities responses were that would like to meet All of the teachers (60%) in the Dept. even after passing Post Graduate Programme examination followed by Most of the teachers (30%).

Table No.2

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Statements</th>
<th>AT</th>
<th>MT</th>
<th>ST</th>
<th>NT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I am proud of my teachers</td>
<td>80%</td>
<td>20%</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>2</td>
<td>I respect my teachers a lot.</td>
<td>85%</td>
<td>15%</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>3</td>
<td>I feel that my teachers are the best.</td>
<td>20%</td>
<td>80%</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>4</td>
<td>I feel that my teachers are partial towards some of my classmates in assessment of answer books .</td>
<td>00</td>
<td>00</td>
<td>20%</td>
<td>80%</td>
</tr>
<tr>
<td>5</td>
<td>I hate my teachers.</td>
<td>00</td>
<td>00</td>
<td>30%</td>
<td>70%</td>
</tr>
<tr>
<td>6</td>
<td>I am happy when my teachers remain absent.</td>
<td>00</td>
<td>10%</td>
<td>40%</td>
<td>50%</td>
</tr>
<tr>
<td>7</td>
<td>Time passes very quickly when my teachers teach in the classroom.</td>
<td>55%</td>
<td>15%</td>
<td>25%</td>
<td>5%</td>
</tr>
<tr>
<td>8</td>
<td>Teachers in this Department are ill tempered.</td>
<td>00</td>
<td>00</td>
<td>30%</td>
<td>70%</td>
</tr>
<tr>
<td>9</td>
<td>I would not be able to pass the examination without the help of my teachers.</td>
<td>20%</td>
<td>60%</td>
<td>20%</td>
<td>00</td>
</tr>
<tr>
<td>10</td>
<td>My teachers are available whenever I have problems related to my studies.</td>
<td>55%</td>
<td>20%</td>
<td>25%</td>
<td>00</td>
</tr>
<tr>
<td>11</td>
<td>Teachers in this Dept. make their teaching very interesting.</td>
<td>40%</td>
<td>50%</td>
<td>10%</td>
<td>00</td>
</tr>
<tr>
<td>12</td>
<td>I would like to meet my teachers in this Dept. even after passing Post Graduate Programme (M.Sc./M.A./M.Com.,) examination.</td>
<td>60%</td>
<td>20%</td>
<td>20%</td>
<td>00</td>
</tr>
</tbody>
</table>

From the above table No. 2 it is observed that the,

1. PG students of Science and Technology responses were that they are proud of All of the teacher (80%) followed Most of (20%) the teachers.

2. PG students of Science and Technology responses were that they respect All of the teachers (80%) followed by Most of teachers (15%).

3. PG students of Science and Technology responses were that the Most of the teacher (80%) are best followed by All of the teachers.

4. PG students of Science and Technology responses were that they are partial towards some of my classmates in assessment of answer books None of the teacher (80%) followed by Most of the teachers (20%).

5. PG students of Science and Technology responses were that they hate None of the teacher (70%) followed by Most of the teachers.
6. PG students of Science and Technology responses were that they are happy. None of the teacher (50%) when remain absent by Some of the teachers(40%) followed by Most of teachers(10%).

7. PG students of Science and Technology responses were that they Class Time passes very quickly when teachers teach in the classroom. All of the teacher (55%) followed by Most of the teachers (25%).

8. PG students responses were None of the teacher (70%) ill tempered followed by Most of the teachers (30%).

9. PG students of Science and Technology responses were that they would not be able to pass the examination without the help of teachers. i.e. Most of the teachers (60%) followed by All of the teachers (20%) and Some of the teachers (20%).

10. PG students of Science and Technology responses were that All the teachers (55%) followed by some of the teachers (25%) are available whenever I have problems related to my studies.

11. PG students of Science and Technology responses were that Most of the teacher (50%) followed by All of the teachers (40%) their teaching very interesting.

12. PG students of Science and Technology responses were that would like to meet All of the teachers (55%) in the Dept. even after passing Post Graduate Programme examination followed by Some of the teacher (20%) and Most of the teachers (20%).

Table No.3

<table>
<thead>
<tr>
<th>Sr.no.</th>
<th>Statement</th>
<th>AT</th>
<th>MT</th>
<th>ST</th>
<th>NT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I am proud of my teachers</td>
<td>40%</td>
<td>50%</td>
<td>10%</td>
<td>00%</td>
</tr>
<tr>
<td>2</td>
<td>I respect my teachers a lot.</td>
<td>45%</td>
<td>40%</td>
<td>15%</td>
<td>00%</td>
</tr>
<tr>
<td>3</td>
<td>I feel that my teachers are the best.</td>
<td>21%</td>
<td>39%</td>
<td>30%</td>
<td>10%</td>
</tr>
<tr>
<td>4</td>
<td>I feel that my teachers are partial towards some of my classmates in assessment of answer books.</td>
<td>00</td>
<td>00</td>
<td>35%</td>
<td>65%</td>
</tr>
<tr>
<td>5</td>
<td>I hate my teachers.</td>
<td>00</td>
<td>5%</td>
<td>50%</td>
<td>45%</td>
</tr>
<tr>
<td>6</td>
<td>I am happy when my teachers remain absent.</td>
<td>00</td>
<td>15%</td>
<td>40%</td>
<td>45%</td>
</tr>
<tr>
<td>7</td>
<td>Time passes very quickly when my teachers teach in the classroom.</td>
<td>40%</td>
<td>15%</td>
<td>45%</td>
<td>00%</td>
</tr>
<tr>
<td>8</td>
<td>Teachers in this Department are ill tempered.</td>
<td>00</td>
<td>30%</td>
<td>25%</td>
<td>45%</td>
</tr>
<tr>
<td>9</td>
<td>I would not be able to pass the examination without the help of teachers.</td>
<td>20%</td>
<td>70%</td>
<td>10%</td>
<td>00%</td>
</tr>
<tr>
<td>10</td>
<td>My teachers are available whenever I have problems related to my studies.</td>
<td>45%</td>
<td>35%</td>
<td>20%</td>
<td>00%</td>
</tr>
<tr>
<td>11</td>
<td>Teachers in this Dept. make their teaching very interesting.</td>
<td>55%</td>
<td>30%</td>
<td>15%</td>
<td>00%</td>
</tr>
<tr>
<td>12</td>
<td>I would like to meet my teachers in this Dept. even after passing Post Graduate Programme (M.Sc./M.A./M.Com.,) examination.</td>
<td>60%</td>
<td>30%</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Responses of PG Students from Commerce and Management

From the above table No. 3 it is observed that the,

1. PG students of Commerce and Management responses were that they are proud of Most of teachers (50%) followed by All of the teachers (40%).

2. PG students of Commerce and Management responses were that they respect All of the teachers (45%) followed by Most of the teachers (40%).
3. PG students of Commerce and Management responses were that their Most of teachers (39%) are best and All teachers are best (21%) followed by Some of teachers (30%).
4. PG students of Commerce and Management responses were that they are partial towards some of my classmates in assessment of answer books None of the teacher (65%) followed by Some of the teachers (35%).
5. PG students of Commerce and Management responses were that their hate Some of the teacher (50%) followed by None of the teachers(45%).
6. PG students of Commerce and Management responses were that they are happy None of the teacher (45%) when remain absent by some of the teachers(40%) followed by Most of teacher (15%).
7. PG students of Commerce and Management responses were that the Class Time passes very quickly when teachers teach in the classroom Some of the teachers (45%) followed by All of the teachers (40%).
8. PG students of Commerce and Management responses were that they None of the teacher (45%) ill tempered most of the teachers (30%) followed by Some of the Teachers (25%).
9. PG students of Commerce and Management responses were that they would not be able to pass the examination without the help of teachers i.e. Most of the teachers (70%) followed by all of the teachers (20%)
10. PG students of Commerce and Management responses were that the All of The Teachers (45%) followed by Most of The Teachers (35%) are available whenever I have problems related to my studies.
11. PG students of Commerce and Management responses were that All of The Teachers (55%) followed by Most of The Teachers (30%) their teaching very interesting.
12. PG students of Commerce and Management responses were that they would like to meet Some of the Teacher (60%) in the Dept. even after passing Post Graduate Programme examination followed by Most of The Teachers (30%).

Table No.4

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Statements</th>
<th>AT</th>
<th>MT</th>
<th>ST</th>
<th>NT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I am proud of my teachers</td>
<td>15%</td>
<td>60%</td>
<td>25%</td>
<td>00%</td>
</tr>
<tr>
<td>2</td>
<td>I respect my teachers a lot.</td>
<td>15%</td>
<td>50%</td>
<td>25%</td>
<td>10%</td>
</tr>
<tr>
<td>3</td>
<td>I feel that my teachers are the best.</td>
<td>30%</td>
<td>60%</td>
<td>00%</td>
<td>10%</td>
</tr>
<tr>
<td>4</td>
<td>I feel that my teachers are partial towards some of my classmates in assessment of answer books</td>
<td>00%</td>
<td>60%</td>
<td>25%</td>
<td>15%</td>
</tr>
<tr>
<td>5</td>
<td>I hate my teachers.</td>
<td>00%</td>
<td>5%</td>
<td>40%</td>
<td>55%</td>
</tr>
<tr>
<td>6</td>
<td>I am happy when my teachers remain absent.</td>
<td>00%</td>
<td>00%</td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td>7</td>
<td>Time passes very quickly when my teachers teach in the classroom.</td>
<td>80%</td>
<td>00%</td>
<td>20%</td>
<td>00%</td>
</tr>
<tr>
<td>8</td>
<td>Teachers in this Department are ill tempered.</td>
<td>00%</td>
<td>10%</td>
<td>45%</td>
<td>45%</td>
</tr>
<tr>
<td>9</td>
<td>I would not be able to pass the examination without the help of my teachers.</td>
<td>20%</td>
<td>80%</td>
<td>00%</td>
<td>00%</td>
</tr>
<tr>
<td>10</td>
<td>My teachers are available whenever I have problems related to my studies.</td>
<td>40%</td>
<td>55%</td>
<td>10%</td>
<td>00%</td>
</tr>
<tr>
<td>11</td>
<td>Teachers in this Dept. make their teaching very interesting.</td>
<td>70%</td>
<td>30%</td>
<td>00%</td>
<td>00%</td>
</tr>
<tr>
<td>12</td>
<td>I would like to meet my teachers in this Dept. even after passing Post Graduate Programme (M.Sc./M.A./M.Com.) examination.</td>
<td>65%</td>
<td>25%</td>
<td>10%</td>
<td>00%</td>
</tr>
</tbody>
</table>

From the above table No. 4,
1. PG students of Interdisciplinary faculty responses were that they are proud of Most of The Teacher (60%) followed by Some of The Teachers (25%).
2. PG students of Interdisciplinary faculty responses were that they respect Most of The Teacher (50%) and Some of the teachers (25%) followed by All of the teachers (15%).
3. PG students Interdisciplinary faculty responses were that Most of The Teacher (60%) are best and All of The Teachers are best (30%) followed by None of The Teachers (10%).
4. PG students of Interdisciplinary faculty responses were that they are partial towards some of my classmates in assessment of answer books Most of the teachers (80%) followed by Some of the teachers (25%).
5. PG students of Interdisciplinary faculty responses were that they hate None of The Teacher (50%) followed by Some of The Teachers (40%).
6. PG students Interdisciplinary faculty responses were that they are happy None of The Teacher (60%) when my teachers remain absent followed by Some of The Teachers (40%).
7. PG students of Interdisciplinary faculty responses were that there Class Time passes very quickly when teachers teach in the classroom All of The Teacher (80%) followed by Most of The Teachers (20%).
8. PG students of Interdisciplinary faculty responses were that None of The Teacher (45%) are ill tempered and some of the teachers (45%) are ill tempered followed by Most of The Teachers (10%).
9. PG students of Interdisciplinary faculty responses were that they would not be able to pass the examination without the help of teachers i.e. Most of The Teacher (80%) followed by All of The Teachers (20%).
10. PG students of Interdisciplinary faculty responses were that Most of The Teacher (55%) followed by All of The Teachers (40%) are available whenever I have problems related to my studies.
11. PG students of Interdisciplinary faculty responses were that All of The Teachers (70%) followed by Most of the Teachers (30%) that their teaching is very interesting.
12. PG students Interdisciplinary faculty responses were that they would like to meet All of The Teacher (65%) in the Dept. even after passing Post Graduate Programme examination followed by Most of the Teachers (25%).

Table No.5

Responses of PG Students from Humanities

<table>
<thead>
<tr>
<th>Sr.no</th>
<th>Statements</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I think that the syllabus of this course is outdated</td>
<td>00</td>
<td>00</td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td>2</td>
<td>I feel the course is uninteresting</td>
<td>00</td>
<td>20%</td>
<td>25%</td>
<td>55%</td>
</tr>
<tr>
<td>3</td>
<td>According to me, other Dept. is better than my Dept. in depth manner</td>
<td>40%</td>
<td>45%</td>
<td>15%</td>
<td>00</td>
</tr>
<tr>
<td>4</td>
<td>I think that the syllabus in this Department is dealt with in an in–depth manner.</td>
<td>50%</td>
<td>40%</td>
<td>00</td>
<td>10%</td>
</tr>
<tr>
<td>5</td>
<td>I am sure that I will get a very good job after completing this course.</td>
<td>45%</td>
<td>55%</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>6</td>
<td>I am very happy to have taken up this course.</td>
<td>65%</td>
<td>25%</td>
<td>10%</td>
<td>00</td>
</tr>
<tr>
<td>7</td>
<td>I have enrolled myself in this course because my parents forced me to do so.</td>
<td>00</td>
<td>10%</td>
<td>45%</td>
<td>45%</td>
</tr>
<tr>
<td>8</td>
<td>My future will be bright if I successfully complete this course.</td>
<td>75%</td>
<td>25%</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>9</td>
<td>Certain subjects include in the syllabus of this course have no course have no connection with day-to-day life.</td>
<td>00</td>
<td>00</td>
<td>35%</td>
<td>65%</td>
</tr>
<tr>
<td>10</td>
<td>Other Dept. offer more interesting optional subjects than this Dept.</td>
<td>00</td>
<td>20%</td>
<td>50%</td>
<td>30%</td>
</tr>
<tr>
<td>11</td>
<td>this course helps us for development of our personality.</td>
<td>50%</td>
<td>50%</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>12</td>
<td>This course does not demands hard work for passing examination.</td>
<td>00</td>
<td>15%</td>
<td>35%</td>
<td>50%</td>
</tr>
<tr>
<td>13</td>
<td>This Dept. does not take action against defaulters in attending lecture.</td>
<td>00</td>
<td>00</td>
<td>55%</td>
<td>45%</td>
</tr>
<tr>
<td>14</td>
<td>I attend lectures only because attendance is compulsory in my Dept.</td>
<td>00</td>
<td>00</td>
<td>25%</td>
<td>75%</td>
</tr>
<tr>
<td>15</td>
<td>This course does not leave us with any time to take part in the co-curricular</td>
<td>00</td>
<td>10%</td>
<td>65%</td>
<td>25%</td>
</tr>
</tbody>
</table>
From the above table No. 5 it is observed that the,
1. PG students of Humanities responses were that they Strongly Disagree (60%) followed by Disagree (40%) for the statement syllabus of this course is outdated.
2. PG students responses of Humanities were that they Strongly Disagree (55%) followed by Disagree(25%) for the course is uninteresting.
3. PG students responses of Humanities were that they Agree (45%) followed by Strongly Agree(45%) for the statement other Department is better than my Department.
4. PG students responses of Humanities were that they Strongly Agree (50%) followed by Agree(40%) for the syllabus in this Department is dealt with in an in-depth manner.
5. PG students responses of Humanities were that they Agree (55%) followed by Strongly Agree(45%) for the statement that am sure that I well get a very good job after completing this course.
6. PG students responses of Humanities were that they are Strongly Agree (65%) followed by Agree(25%) for the statement am very happy to have taken up this course.
7. PG students responses of Humanities were that they are Disagree (45%) and Strongly Disagree (45%) for the statement I have enrolled myself in this course because my parents forced me to do so.
8. PG students responses of Humanities were that they are Strongly Agree (75%) followed by Agree(25%) for the statement My future will be bright if I successfully complete this course.
9. PG students responses of Humanities were that they Strongly Disagree (65%) followed by Agree(35%) for the statement Certain subjects include in the syllabus of this course have no course have no connection with day-to-day life
10. PG students responses of Humanities were that they Disagree (50%) followed by some of the Strongly Disagree(30%) for the statement Other Dept. offer more interesting optional subjects than this Dept.
11. PG students of Humanities responses were that Strongly Agree (50%) followed by Agree(50%) for the statement course helps us for development of our personality.
12. PG students of Humanities responses were that they are proud of Strongly Disagree (50%) followed by Disagree(35%) for the statement This course does not demands hard work for passing examination.
13. PG students of Humanities responses were that they Disagree (55%) followed by Strongly Disagree(45%) for the statement Dept. does not take action against defaulters in attending lecture.
14. PG students responses of Humanities were that they Strongly Disagree (75%) followed by Disagree(25%) for the statement attend lectures only because attendance is compulsory in my Dept.
15. PG students responses of Humanities were that they Disagree (65%) followed by Strongly Agree(25%) for the statement course does not leave us with any time to take part in the co-curricular activities.
16. PG students responses of Humanities were that they Strongly Disagree (85%) followed by Disagree(15%) for the statement Many a times there are mistakes in the question papers of this course.
17. PG students responses of Humanities were that they Disagree (65%) followed by Strongly Disagree (30%) for the statement course given undue emphasis on rote learning rather than understanding and application of the subjects.

18. PG students of Humanities responses were that they Strongly Agree (70%) followed by Agree (30%) for the statement Projects and practical have made this course challenging.

19. PG students of Humanities responses were that they Agree (90%) followed by Strongly Agree (10%) for the statement course combined study with activities like Educational institute visits, guest lectures and group discussions.

20. PG students responses of Humanities were that they Strongly Agree (60%) followed by Agree (40%) for the statement Use of Dept. library for referencing is a must for studying this course.

21. PG students responses of Humanities were that they Agree (75%) followed by Strongly Agree for the statement course encourages us a lot for taking part in co-curricular activities and intercollegiate competitions.

Table No. 6

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Statements</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I think that the syllabus of this course is outdated</td>
<td>00</td>
<td>10%</td>
<td>40%</td>
<td>50%</td>
</tr>
<tr>
<td>2</td>
<td>I feel the course is uninteresting</td>
<td>00</td>
<td>20%</td>
<td>25%</td>
<td>55%</td>
</tr>
<tr>
<td>3</td>
<td>According to me, other Dept. is better than my Dept. in depth manner</td>
<td>00</td>
<td>45%</td>
<td>15%</td>
<td>40%</td>
</tr>
<tr>
<td>4</td>
<td>I think that the syllabus in this college is dealt with in an in-depth manner</td>
<td>50%</td>
<td>40%</td>
<td>10%</td>
<td>00</td>
</tr>
<tr>
<td>5</td>
<td>I am sure that I well get a very good job after completing this course.</td>
<td>55%</td>
<td>45%</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>6</td>
<td>I am very happy to have taken up this course.</td>
<td>75%</td>
<td>15%</td>
<td>10%</td>
<td>00</td>
</tr>
<tr>
<td>7</td>
<td>I have enrolled myself in this course because my parents forced me to do so.</td>
<td>00</td>
<td>30%</td>
<td>20%</td>
<td>50%</td>
</tr>
<tr>
<td>8</td>
<td>My future will be bright if I successfully complete this course.</td>
<td>75%</td>
<td>25%</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>9</td>
<td>Certain subjects include in the syllabus of this course have no course have no connection with day-to-day life.</td>
<td>00</td>
<td>00</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>10</td>
<td>Other Dept. offer more interesting optional subjects than this Dept.</td>
<td>00</td>
<td>15%</td>
<td>60%</td>
<td>25%</td>
</tr>
<tr>
<td>11</td>
<td>this course helps us for development of our personality.</td>
<td>45%</td>
<td>50%</td>
<td>5%</td>
<td>00</td>
</tr>
<tr>
<td>12</td>
<td>This course does not demands hard work for passing examination.</td>
<td>00</td>
<td>10%</td>
<td>35%</td>
<td>55%</td>
</tr>
<tr>
<td>13</td>
<td>This Dept. does not take action against defaulters in attending lecture.</td>
<td>00</td>
<td>00</td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>14</td>
<td>I attend lectures only because attendance is compulsory in my Dept.</td>
<td>00</td>
<td>00</td>
<td>55%</td>
<td>45%</td>
</tr>
<tr>
<td>15</td>
<td>This course does not leave us with any time to take part in the co-curricular activities.</td>
<td>00</td>
<td>10%</td>
<td>55%</td>
<td>25%</td>
</tr>
<tr>
<td>16</td>
<td>Many a times there are mistakes in the question papers of this course.</td>
<td>00</td>
<td>00</td>
<td>15%</td>
<td>85%</td>
</tr>
<tr>
<td>17</td>
<td>This course given undue emphasis on rote learning rather than understanding and application of the subjects.</td>
<td>5%</td>
<td>15%</td>
<td>55%</td>
<td>30%</td>
</tr>
<tr>
<td>18</td>
<td>Projects and practical have made this course challenging.</td>
<td>70%</td>
<td>30%</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>19</td>
<td>This course combined study with activities like Educational institute visits, guest lectures and group discussions.</td>
<td>10%</td>
<td>90%</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>20</td>
<td>Use of Dept. library for referencing is a must for studying this course.</td>
<td>40%</td>
<td>60%</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>21</td>
<td>This course encourages us a lot for taking part in co-curricular activities and intercollegiate competitions.</td>
<td>15%</td>
<td>85%</td>
<td>00</td>
<td>00</td>
</tr>
</tbody>
</table>

From the above table No. 6 it is observed that the,
1. PG students of Science and Technology responses were that they strongly disagree (50%) followed by disagree (40%) for the statement syllabus of this course is outdated.

2. PG students' responses of Science and Technology were that they strongly disagree (55%) followed by disagree (25%) for the statement course is uninteresting.

3. PG students of Science and Technology responses were that they are Agree (40%) followed by strongly disagree (40%) for the statement other Department is better than my Department.

4. PG students of Science and Technology responses were that they are strongly agree (50%) followed by agree (40%) for the statement syllabus in this Department is dealt with in an in-depth manner.

5. PG students of Science and Technology responses were that their strongly agree (55%) followed by agree (45%) for the statement am sure that I will get a very good job after completing this course.

6. PG students of Science and Technology responses were that they are strongly agree (75%) followed by agree (15%) for the statement am very happy to have taken up this course.

7. PG students of Science and Technology responses were that they are Strongly Disagree (50%) followed by agree (30%) for the statement I have enrolled myself in this course because my parents forced me to do so.

8. PG students of Science and Technology responses were that they are strongly agree (75%) followed by agree (25%) for the statement My future will be bright if I successfully complete this course.

9. PG students of Science and Technology responses were that they are disagree (60%) followed by strongly disagree (40%) for the statement Certain subjects include in the syllabus of this course have no course have no connection with day-to-day life.

10. PG students of Science and Technology responses were that they are disagree (60%) followed by strongly disagree (25%) for the statement Other Department offer more interesting optional subjects than this Department.

11. PG students of Science and Technology responses were that they are strongly agree (50%) followed by agree (45%) for the statement this course helps us for development of our personality.

12. PG students of Science and Technology responses were that they are strongly disagree (55%) followed by disagree (35%) for the statement This course does not demands hard work for passing examination.

13. PG students of Science and Technology responses were that they are disagree (55%) followed by strongly disagree (25%) for the statement This department does not take action against defaulters in attending lecture.

14. PG students of Science and Technology responses were that they are disagree (55%) followed by strongly disagree (45%) for the statement attend lecture only because attendance is compulsory in my Department.

15. PG students of Science and Technology responses were that they are disagree (55%) followed by strongly disagree (25%) for the statement This course does not leave us with any time to take part in the co-curricular activities.

16. PG students of Science and Technology responses were that they Strongly agree (85%) followed by disagree (15%) for the statement Many a times there are mistakes in the question papers of this course.

17. PG students of Science and Technology responses were that they are disagree (55%) followed by strongly disagree (30%) for the statement This course given undue emphasis on rote learning rather than understanding and application of the subjects.

18. PG students of Science and Technology responses were that they are strongly agree (70%) followed by agree (30%) for the statement Projects and practical have made this course challenging.

19. PG students of Science and Technology responses were that they are agree (90%) followed by strongly agree (10%) for the statement course combined study with activities like Educational institute visits, guest lectures and group discussions.

20. PG students of Science and Technology responses were that they are agree (60%) followed by strongly agree (40%) for the statement Use of Dept. library for referencing is a must for studying this course.
21. PG students of Science and Technology responses were that they are agree (85%) followed by strongly agree(15%) for the statement course encourages us a lot for taking part in co-curricular activities and intercollegiate competitions.

Table No.7

Responses of PG Students from Commerce and Management

<table>
<thead>
<tr>
<th>Sr.no</th>
<th>Statements</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I think that the syllabus of this course is outdated</td>
<td>00</td>
<td>10%</td>
<td>45%</td>
<td>45%</td>
</tr>
<tr>
<td>2</td>
<td>I feel the course is uninteresting</td>
<td>00</td>
<td>10%</td>
<td>30%</td>
<td>60%</td>
</tr>
<tr>
<td>3</td>
<td>According to me, other Dept. is better than my Dept in depth manner</td>
<td>40%</td>
<td>30%</td>
<td>25%</td>
<td>5%</td>
</tr>
<tr>
<td>4</td>
<td>I think that the syllabus in this college is dealt with in an in-depth manner.</td>
<td>00</td>
<td>50%</td>
<td>50%</td>
<td>00</td>
</tr>
<tr>
<td>5</td>
<td>I am sure that I will get a very good job after completing this course.</td>
<td>65%</td>
<td>15%</td>
<td>20%</td>
<td>00</td>
</tr>
<tr>
<td>6</td>
<td>I am very happy to have taken up this course.</td>
<td>60%</td>
<td>15%</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>I have enrolled myself in this course because my parents forced me to do so.</td>
<td>00</td>
<td>00</td>
<td>30%</td>
<td>70%</td>
</tr>
<tr>
<td>8</td>
<td>My future will be bright if I successfully complete this course.</td>
<td>50%</td>
<td>30%</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Certain subjects include in the syllabus of this course have no course have no connection with day-to-day life.</td>
<td></td>
<td>15%</td>
<td>65%</td>
<td>20%</td>
</tr>
<tr>
<td>10</td>
<td>Other Dept. offer more interesting optional subjects than this Dept.</td>
<td>10%</td>
<td>45%</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>this course helps us for development of our personality.</td>
<td>40%</td>
<td>50%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>This course does not demands hard work for passing examination.</td>
<td></td>
<td>10%</td>
<td>30%</td>
<td>70%</td>
</tr>
<tr>
<td>13</td>
<td>This Dept. does not take action against defaulters in attending lecture.</td>
<td>20%</td>
<td></td>
<td>60%</td>
<td>20%</td>
</tr>
<tr>
<td>14</td>
<td>I attend lectures only because attendance is compulsory in my Dept.</td>
<td></td>
<td></td>
<td>85%</td>
<td>15%</td>
</tr>
<tr>
<td>15</td>
<td>This course does not leave us with any time to take part in the co-curricular activities.</td>
<td></td>
<td>15%</td>
<td>75%</td>
<td>10%</td>
</tr>
<tr>
<td>16</td>
<td>Many a times there are mistakes in the question papers of this course.</td>
<td></td>
<td>10%</td>
<td>80%</td>
<td>10%</td>
</tr>
<tr>
<td>17</td>
<td>This course given undue emphasis on rote learning rather than understanding and application of the subjects.</td>
<td></td>
<td>15%</td>
<td>75%</td>
<td>10%</td>
</tr>
<tr>
<td>18</td>
<td>Projects and practical have made this course challenging.</td>
<td>15%</td>
<td>70%</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>This course combined study with activities like Educational institute visits, guest lectures and group discussions.</td>
<td>50%</td>
<td>30%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>20</td>
<td>Use of Dept. library for referencing is a must for studying this course.</td>
<td>60%</td>
<td>40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>This course encourages us a lot for taking part in co-curricular activities and intercollegiate competitions.</td>
<td>50%</td>
<td>25%</td>
<td>15%</td>
<td>10%</td>
</tr>
</tbody>
</table>
From the above table No. 7 it is observed that the,
1. PG students of Commerce and Management responses were that they are Disagree(45%) and Strongly disagree(45%) followed by agree(10%) for the statement syllabus of this course is outdated
2. PG students of Commerce and Management responses were that they are Strongly disagree(60%) followed by Disagree(30%) for the statement course is uninteresting.
3. PG students responses were that they are strongly agree(40%) and agree(30%) followed by disagree(25%) for the statement other Dept. is better than my Dept. in depth manner
4. PG students of Commerce and Management responses were that they are Agree(50%) followed by Disagree(50%) for the statement syllabus in this college is dealt with in an in-depth manner.
5. PG students of Commerce and Management responses were that they are Strongly agree(65%) followed by Disagree(20%) for the statement am sure that I well get a very good job after completing this course.
6. PG students of Commerce and Management responses were that they are Strongly agree(60%) followed by Disagree(25%) for the statement am very happy to have taken up this course.
7. PG students of Commerce and Management responses were that they are Strongly disagree(70%) followed by Disagree(30%) for the statement enrolled myself in this course because my parents forced me to do so.
8. PG students of Commerce and Management responses were that they are Agree(45%), Agree(30%) for the statement My future will be bright if I successfully complete this course.
9. PG students of Commerce and Management responses were that they are Disagree(65%) and Strongly disagree(20%) followed by agree(15%) for the statement Certain subjects include in the syllabus of this course have no course have no connection with day-to-day life.
10. PG students of Commerce and Management responses were that they are Agree(45%) and Disagree(45%) followed by agree(10%) for the statement Other Dept. offer more interesting optional subjects than this Dept.
11. PG students of Commerce and Management responses were that they are agree(50%) and strongly agree(40%) followed by disagree(10%) for the statement this course helps us for development of our personality.
12. PG students of Commerce and Management responses were that they are strongly disagree(70%) followed by disagree(30%) for the statement course does not demands hard work for passing examination.
13. PG students of Commerce and Management responses were that they are disagree(60%) and agree(20%) followed by strongly disagree(20%) for the statement Dept. does not take action against defaulters in attending lecture.
14. PG students of Commerce and Management responses were that they are proud disagree(85%) followed by strongly disagree(15%) for the statement attend lectures only because attendance is compulsory in my Dept.
15. PG students of Commerce and Management responses were that they are disagree(75%) and agree(15%) followed by strongly disagree(15%) for the statement course does not leave us with any time to take part in the co-curricular activities.
16. PG students of Commerce and Management responses were that they are disagree(50%) and disagree(10%) followed by agree(10%) for the statement Many a times there are mistakes in the question papers of this course.
17. PG students of Commerce and Management responses were that they are disagree(75%) and agree(15%) followed by strongly disagree(10%) for the statement course given undue emphasis on rote learning rather than understanding and application of the subjects.
18. PG students of Commerce and Management responses were that they are agree(70%) and disagree(15%) followed by strongly agree(15%) for the statement Projects and practical have made this course challenging.
19. PG students of Commerce and Management responses were that they are agree(50%) followed by strongly agree(30%) for the statement course combined study with activities like Educational institute visits, guest lectures and group discussions.
20. PG students of Commerce and Management responses were that they are agree(60%) followed by strongly agree(40%) for the statement Use of Dept. library for referencing is a must for studying this course

21. PG students of Commerce and Management responses were that they are Strongly agree(50%) and Agree (25%) followed by disagree(10%) for the statement Use of Dept. library for referencing is a must for studying this course.

Table No.8

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Statements</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I think that the syllabus of this course is outdated</td>
<td>00</td>
<td>5%</td>
<td>40%</td>
<td>55%</td>
</tr>
<tr>
<td>2</td>
<td>I feel the course is uninteresting</td>
<td>00</td>
<td>00</td>
<td>30%</td>
<td>70%</td>
</tr>
<tr>
<td>3</td>
<td>According to me, course is uninteresting other Dept. is better than my Dept. in depth manner</td>
<td>50</td>
<td>20%</td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>4</td>
<td>I think that the syllabus in this college is dealt with in an in – depth manner.</td>
<td>00</td>
<td>85%</td>
<td>15%</td>
<td>00</td>
</tr>
<tr>
<td>5</td>
<td>I am sure that I well get a very good job after completing this course.</td>
<td>40%</td>
<td>30%</td>
<td>30%</td>
<td>00</td>
</tr>
<tr>
<td>6</td>
<td>I am very happy to have taken up this course.</td>
<td>50%</td>
<td>10%</td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>I have enrolled myself in this course because my parents forced me to do so.</td>
<td>00</td>
<td>00</td>
<td>70%</td>
<td>30%</td>
</tr>
<tr>
<td>8</td>
<td>My future will be bright if I successfully complete this course.</td>
<td>60%</td>
<td>15%</td>
<td>25%</td>
<td>00</td>
</tr>
<tr>
<td>9</td>
<td>Certain subjects include in the syllabus of this course have no course have no connection with day-to-day life.</td>
<td>00</td>
<td>00</td>
<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td>10</td>
<td>Other Dept. offer more interesting optional subjects than this Dept.</td>
<td>5%</td>
<td>45%</td>
<td>50%</td>
<td>00</td>
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<td>this course helps us for development of our personality.</td>
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<td>12</td>
<td>This course does not demands hard work for passing examination.</td>
<td>00</td>
<td>00</td>
<td>30%</td>
<td>70%</td>
</tr>
<tr>
<td>13</td>
<td>This Dept. does not take action against defaulters in attending lecture.</td>
<td>20%</td>
<td>5%</td>
<td>50%</td>
<td>25%</td>
</tr>
<tr>
<td>14</td>
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<td>00</td>
<td>00</td>
<td>20%</td>
<td>80%</td>
</tr>
<tr>
<td>15</td>
<td>This course does not leave us with any time to take part in the co-curricular activities.</td>
<td>10%</td>
<td>15%</td>
<td>25%</td>
<td>60%</td>
</tr>
<tr>
<td>16</td>
<td>Many a times there are mistakes in the question papers of this course.</td>
<td>00</td>
<td>10%</td>
<td>80%</td>
<td>10%</td>
</tr>
<tr>
<td>17</td>
<td>This course given undue emphasis on rote learning rather than understanding and application of the subjects.</td>
<td>00</td>
<td>00</td>
<td>40%</td>
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<tr>
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<td>15%</td>
<td>10%</td>
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<td>40%</td>
<td>10%</td>
<td>00</td>
</tr>
<tr>
<td>20</td>
<td>Use of Dept. library for referencing is a must for studying this course.</td>
<td>60%</td>
<td>40%</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>21</td>
<td>This course encourages us a lot for taking part in co-curricular activities and intercollegiate competitions.</td>
<td>50%</td>
<td>25%</td>
<td>25%</td>
<td>00</td>
</tr>
</tbody>
</table>

From the above table No. 8 it is observed that the,
1. PG students of Interdisciplinary faculty responses were that they are Strongly Disagree(55%) followed by Disagree(40%) for the statement syllabus of this course is outdated.
2. PG students of Interdisciplinary faculty responses were that they are Strongly Disagree(70%) followed by Disagree(30%) for the statement course is uninteresting.
3. PG students of Interdisciplinary faculty responses were that they are Strongly agree(50%), followed Agree(20%) For the statement course is uninteresting.
4. PG students of Interdisciplinary faculty responses were that they are Agree(85%) followed by Disagree(15%) for the statement syllabus in this college is dealt with in an in-depth manner.
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21. PG students of Interdisciplinary faculty responses were that they are Strongly Agree(50%) and Agree(25%) followed by disagree(25%) for the statement course encourages us a lot for taking part in co-curricular activities and intercollegiate competitions.

Findings (In nut shell)

PG students of Humanities, Science and Technology, Commerce and Management and Interdisciplinary faculty are proud of and respect their teachers.

PG students of Interdisciplinary faculty responses were that they are partial towards some of my classmates in assessment of answer books.

PG students of Interdisciplinary faculty responses were that there Class Time passes very quickly when teachers teach in the classroom.

PG students responses of Humanities were sure that they well get a very good job after completing this course.

PG students of Humanities responses were that the course helps us for development of our personality.

PG students of Science and Technology responses were that they Strongly disagree for the statement syllabus of this course is outdated.

PG students responses of Science and Technology were that they strongly disagree for the statement course is uninteresting.

PG students of Science and Technology responses were that they are agree for the statement course combined study with activities like Educational institute visits, guest lectures and group discussions.

PG students of Commerce and Management responses were that they are agree for the statement course combined study with activities like Educational institute visits, guest lectures and group discussions.

PG students of Interdisciplinary faculty responses were that they are Strongly Disagree for the statement syllabus of this course is outdated.

PG students of Interdisciplinary faculty responses were that they are Strongly Disagree for the statement course is uninteresting.

PG students of Interdisciplinary faculty responses were that they are Agree for the statement syllabus in this college is dealt with in an in-depth manner.

PG students of Interdisciplinary faculty responses were that they are Strongly Agree statement course does not leave us with any time to take part in the co-curricular activities.

References:


5. https://www.edglossary.org/curriculum/
THE DEVELOPMENT OF HIGHER EDUCATION IN INDIA : AN ECONOMISTS VIEW

Dr.T. K. Udgirkar
Head, Dept. of Economics,
Rajaram College, Kolhapur. (Maharashtra)

Abstract
Higher education is the most powerful tools to build a knowledge based society for the future. It is a major national investment in social and economic progress because education can socialise people. It also confer civic benefits. As for the role of education in economic development, the initial stress is on manpower planning which is essentially a way of analysing developing countries human resource needs. The main objective of this paper is what is the development of higher education in India : an economists view. For this analysis secondary data will be used. In this paper main contains are included 1) Education’s Role in development, 2) Education and Human Resource development, 3) Development of higher education in India, 4) Education and Economists view, 5) Conclusion.

This study as the result, India has one of the largest numbers of higher education Institutions. The number of universities and colleges increased from 20 to 500 respectively at the time of independence and at present 757 universities and university level institutions with 38,056 colleges and 11768 Diploma level institutions in 2014-15. The number of students enrolled facultywise its data reveals that 74.4% were enrolled in general education and 24.4% were enrolled in professional course of India in 2012-13.

Keywords : Higher Education, Economists View, Human Resource Development.

Introduction
Although it is true that the less developed countries have much lower levels of education than developed countries, it would be wrong to conclude all that is needed to achieve "development" is education because the kind of higher education a university in a developing countries (like India) provides today will play a vital role in determining the shape of social, economic, political and Industrial development of the country in the year ahead. The Indian higher education system, which includes technical education, is one of the largest in the world, fast after United States and China. Higher education is the most powerful tool to build a knowledge based society for the future. Education and especially the higher education is a major national investment in social and economic progress. Its constituent elements must be selected and managed as serious and concrete investment items. University should be laboratory for experimentation, a training ground to equip the students with skills and knowledge to enter and change society. Teachers are powerful, they can make heroes of our stones. Their role in this cannot be exaggerated. They as priests of country, can give education for tomorrow, for changing society and for the future custodians of our nation, the youth.

Education’s Role in Development
Education can socialise people. It also confers civic benefits. And a minimum level of schooling is prerequisite for political democracy. As for the role of education in economic development, the initial stress was on manpower planning which is essentially a way of analysing developing countries human resource needs. This approach was followed in 1950s, which led to tremendous expansion of much needed secondary and higher education. In the 1960s a new method of analyzing educational attainment was devised viz. cost benefit analysis. It was based on human capital theory. While manpower analysis considers only the benefits, cost benefits, analysis compares the costs and benefits of education. In India, expenditure on education is not considered as an investment in human resources, yet in Government plans, which are meant for promoting economic growth education find a place. However the proportion of public expenditure on education to GDP in India had stagnated for three decades since nearly 1950s. The proportion of public expenditure on education to GDP started increasing around the mid 1980s and there has also been some improvement in the share of elementary education together with some education of
interstate disparites. However, even now public expenditure on education in India is inadequate. It was only 3.1 percent of GDP in 2014-15 (much less than a goal of 6 percent of GDP).

No doubt education remains tremendously importance in LDCs(India). Indeed, the large number of people and sums of money are invested on it. At present government of LDCs are concerned with at least three things (1) How to finance the amount of education that people want. (2) How to improve the quality of schooling and (3) How to provide basic education to those who are still excluded especially girls in some countries. At the same time, the poor quality of schooling in most LDCs has contributed to high rates of repetition and dropouts.

**Education and Human Resources Development**

The term education refers to all forms of human learning. In a narrow sense, it refers to the process that occur in specialized institutions called schools. No doubt education is the most important form of human resource development in more ways than one. The following point may be nosed in this context. The demand for education has been increasing over the years in both developed countries (DCs) and less developed countries (LDCs). The reason for this is easy to find out. Most people believe that education is beneficial for themselves and their children. This largely explain why in most LDCs the number of people seeking admission to schools for exceeds the number of places available. Education is also important because it is highly co-related with income at both the individual and social level. All high school graduates do not necessarily earn more than all who completed only primary schools. But the majority do and, on average, their earnings are much higher. Because of such correlations, people all around the world try to obtain maximum amount of schooling for themselves and their children.

There is also a strong, correlation between national income levels and educational attainment. The rate of illiteracy is high in the poorest of the LDCs and diminishes steadily with an increase in income. Mass education is now gradually becoming a common features of the poor countries. Today even the very poor countries educate a much large faction of their school age population than they did in the past. This means that the educational attainment of the adult population is rising first. On an average the correlation between education and income is strong. Importance of education is in both family and national budgets. Finally, education is important because large sums are spent to acquire it. It is big item in both household and national budgets. Governments of LDCs devote a substantial fraction of the resources to the creation and operation of school system not only because their people like it but also because it stimulates the development of nations.

**Development of higher education in India**

The development of Indian higher education continued and it acquired its own distinctive characteristics. The process of the development of Universities continued from 1857 to 1881 when proposals for new universities were considered. The first education commission of 1882 considered the scope and outline of education in India in a rather scientific manner. Considerable expansion of higher education took place from 1882 to 1902. The first universities commission of 1902 was established the recommendations of which were implemented through the universities Act of 1904, with the establishment of universities in India under the Act of 1904. A new political and economic consciousness had developed in India. An educational policy was evolved in 1913 by the Government of India. New universities came into being. A new inter university board was constituted to bring about coordination in the work of the universities. A Central Advisory Board on educational Development in India was constituted.

Since ancient times, India has been a centre of excellence in the field of higher education. Nalanda, Vikramashila and Takshashila were few of the oldest universities in the world and were the most renowned seats of higher education during their time. Students for off countries came to study in these universities. Today India has one of the largest higher education systems in the world and also some world-class institutions for higher education. The universities of Calcutta, Bombay and Madras Ministry of Education was established on 29th August 1947.

In 1952, the Union Government decided that all cases pertaining to the allocation of grants-in-aid from public funds to the central universities and other universities and institutions of higher learning might be referred to the
University Grants Commission (UGC). The UGC was formally established in Nov.1956 as a statutory body of the Government of India through an act of parliament for the co-ordination, determination and maintenance of standards of university education in India. In order to ensure effective region-wise coverage throughout the country, the UGC has decentralised its operations by setting up six regional centres at Pune, Hyderabad, Kolkata, Bhopal, Guwahati and Bangalore. The head office of the UGC is located in New Delhi.

A University Grants Commission Report of 1987 has said that in the year 1977-78, there were 105 universities and 10 institutions deemed to be universities with 4375 colleges and with 25,64,972 students enrolled. In the year 1986-87, there were 136 universities, 19 Institutions deemed to be universities with 6040 colleges and with 36,81,870 students. This shows an increase of 30 universities and institutions deemed to be universities, an increase of about 1665 colleges and an increase of 11,16,898 students. This is phenomenal increase in the field of higher education. The history and development of Higher Education in India showing on Table No.1 and 2 which is indicating that the information about universities in India from 1946-47 to 2014-15.

India has one of the largest numbers of higher education Institutions. The number of universities and colleges increased from 20 and 500 respectively at the time of independence to 757 universities and university level institutions with 38,056 colleges and 11768 diploma level institutions in 2014-15. The GER in higher education has nearly doubled from around 11.6 percent in 2005-06 to 21.1 percent in 2012-13 with 29.6 million students enrolled in 2012-13 to 14.3 million in 2005-06. While India has some of the best institutions in the world. In terms of quality of education, a lot more needs to be done.

Table No.1: Information About Universities in India 1946-47

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Name of University</th>
<th>Date of Foundation</th>
<th>Number of Students in 1946-47</th>
<th>Present Character of University</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Calcutta</td>
<td>1857</td>
<td>45,008</td>
<td>Affiliating and Teaching</td>
</tr>
<tr>
<td>2.</td>
<td>Bombay</td>
<td>1857 Reconstituted 1928</td>
<td>43,090</td>
<td>Affiliating and Teaching</td>
</tr>
<tr>
<td>3.</td>
<td>Madras</td>
<td>1857 Reconstituted 1923</td>
<td>28,888</td>
<td>Federative, Affiliating and Teaching</td>
</tr>
<tr>
<td>4.</td>
<td>Allahabad</td>
<td>1887 Reconstituted 1922</td>
<td>3502</td>
<td>Teaching</td>
</tr>
<tr>
<td>5.</td>
<td>Banaras</td>
<td>1916</td>
<td>5083</td>
<td>Teaching</td>
</tr>
<tr>
<td>6.</td>
<td>Mysore</td>
<td>1916</td>
<td>9350</td>
<td>Teaching and Affiliating</td>
</tr>
<tr>
<td>7.</td>
<td>Patna</td>
<td>1917</td>
<td>15471</td>
<td>Teaching and Affiliating</td>
</tr>
<tr>
<td>8.</td>
<td>Osmania</td>
<td>1918</td>
<td>4862</td>
<td>Teaching</td>
</tr>
<tr>
<td>9.</td>
<td>Aligarh</td>
<td>1920</td>
<td>4009</td>
<td>Teaching</td>
</tr>
<tr>
<td>10.</td>
<td>Lucknow</td>
<td>1920</td>
<td>3893</td>
<td>Teaching</td>
</tr>
<tr>
<td>11.</td>
<td>Delhi</td>
<td>1922</td>
<td>4311</td>
<td>Teaching and Affiliating</td>
</tr>
<tr>
<td>12.</td>
<td>Nagpur</td>
<td>1923</td>
<td>5734</td>
<td>Teaching and Affiliating</td>
</tr>
<tr>
<td>13.</td>
<td>Andhra</td>
<td>1926</td>
<td>9445</td>
<td>Teaching and Affiliating</td>
</tr>
<tr>
<td>14.</td>
<td>Agra</td>
<td>1927</td>
<td>9936</td>
<td>Affiliating</td>
</tr>
<tr>
<td>15.</td>
<td>Annamalai</td>
<td>1929</td>
<td>1981</td>
<td>Teaching</td>
</tr>
<tr>
<td>16.</td>
<td>Travancore</td>
<td>1937</td>
<td>5715</td>
<td>Teaching and Affiliating</td>
</tr>
<tr>
<td>17.</td>
<td>Ukil</td>
<td>1943</td>
<td>3662</td>
<td>Affiliating</td>
</tr>
<tr>
<td>18.</td>
<td>Sauger</td>
<td>1946</td>
<td>1828</td>
<td>Teaching and Affiliating</td>
</tr>
<tr>
<td>19.</td>
<td>Rajputana</td>
<td>1947</td>
<td>NA</td>
<td>Affiliating</td>
</tr>
<tr>
<td>20.</td>
<td>East Punjab</td>
<td>1947</td>
<td>NA</td>
<td>Teaching and Affiliating</td>
</tr>
<tr>
<td>21.</td>
<td>Gauhati</td>
<td>1947</td>
<td>NA</td>
<td>Teaching and Affiliating</td>
</tr>
<tr>
<td>22.</td>
<td>Poona</td>
<td>1948</td>
<td>NA</td>
<td>Teaching and Affiliating</td>
</tr>
<tr>
<td>23.</td>
<td>Roorkee</td>
<td>1948</td>
<td>NA</td>
<td>Teaching</td>
</tr>
<tr>
<td>24.</td>
<td>Kashmir</td>
<td>1948</td>
<td>NA</td>
<td>Affiliating</td>
</tr>
<tr>
<td>25.</td>
<td>Baroda</td>
<td>1949</td>
<td>NA</td>
<td>Teaching and Affiliating</td>
</tr>
</tbody>
</table>
Table No.2
Number of Recognised Educational Institutions in India 2014-15 (Provisional)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>State</th>
<th>Universities/ University level institutes</th>
<th>Colleges</th>
<th>Technical education</th>
<th>PGDM</th>
<th>Nursing</th>
<th>Teacher Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Andhra Pradesh</td>
<td>28</td>
<td>2591</td>
<td>146</td>
<td>11</td>
<td>420</td>
<td>282</td>
</tr>
<tr>
<td>2.</td>
<td>Arunachal Pradesh</td>
<td>8</td>
<td>27</td>
<td>02</td>
<td>NA</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>3.</td>
<td>Asam</td>
<td>18</td>
<td>535</td>
<td>16</td>
<td>1</td>
<td>45</td>
<td>22</td>
</tr>
<tr>
<td>4.</td>
<td>Bihar</td>
<td>22</td>
<td>716</td>
<td>23</td>
<td>4</td>
<td>80</td>
<td>43</td>
</tr>
<tr>
<td>5.</td>
<td>Chhatisgarh</td>
<td>22</td>
<td>692</td>
<td>01</td>
<td>9</td>
<td>28</td>
<td>47</td>
</tr>
<tr>
<td>6.</td>
<td>Goa</td>
<td>2</td>
<td>56</td>
<td>08</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7.</td>
<td>Gujarat</td>
<td>49</td>
<td>3055</td>
<td>1</td>
<td>18</td>
<td>130</td>
<td>557</td>
</tr>
<tr>
<td>8.</td>
<td>Haryana</td>
<td>36</td>
<td>1109</td>
<td>204</td>
<td>21</td>
<td>42</td>
<td>59</td>
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<td>9.</td>
<td>Himachal Pradesh</td>
<td>24</td>
<td>299</td>
<td>41</td>
<td>NA</td>
<td>26</td>
<td>18</td>
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<tr>
<td>10.</td>
<td>Jammu &amp; Kashmir</td>
<td>11</td>
<td>318</td>
<td>30</td>
<td>NA</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>11.</td>
<td>Jhazkhand</td>
<td>13</td>
<td>294</td>
<td>28</td>
<td>7</td>
<td>21</td>
<td>5</td>
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<tr>
<td>12.</td>
<td>Karnataka</td>
<td>51</td>
<td>3416</td>
<td>311</td>
<td>26</td>
<td>568</td>
<td>756</td>
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<tr>
<td>13.</td>
<td>Kerala</td>
<td>18</td>
<td>1240</td>
<td>77</td>
<td>8</td>
<td>233</td>
<td>272</td>
</tr>
<tr>
<td>14.</td>
<td>Madhya Pradesh</td>
<td>41</td>
<td>2218</td>
<td>97</td>
<td>19</td>
<td>88</td>
<td>182</td>
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<tr>
<td>15.</td>
<td>Maharshtra</td>
<td>45</td>
<td>4718</td>
<td>1065</td>
<td>73</td>
<td>127</td>
<td>1355</td>
</tr>
<tr>
<td>16.</td>
<td>Manipur</td>
<td>4</td>
<td>85</td>
<td>1</td>
<td>NA</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>17.</td>
<td>Meghalaya</td>
<td>10</td>
<td>62</td>
<td>3</td>
<td>NA</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>18.</td>
<td>Mizoram</td>
<td>3</td>
<td>29</td>
<td>2</td>
<td>NA</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>19.</td>
<td>Nagaland</td>
<td>4</td>
<td>62</td>
<td>5</td>
<td>NA</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20.</td>
<td>Odisha</td>
<td>21</td>
<td>1075</td>
<td>143</td>
<td>11</td>
<td>40</td>
<td>72</td>
</tr>
<tr>
<td>21.</td>
<td>Punjab</td>
<td>23</td>
<td>1079</td>
<td>170</td>
<td>2</td>
<td>159</td>
<td>31</td>
</tr>
<tr>
<td>22.</td>
<td>Rajasthan</td>
<td>64</td>
<td>2786</td>
<td>194</td>
<td>19</td>
<td>159</td>
<td>201</td>
</tr>
<tr>
<td>23.</td>
<td>Sikkim</td>
<td>7</td>
<td>13</td>
<td>2</td>
<td>NA</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>24.</td>
<td>Tamilnadu</td>
<td>58</td>
<td>2531</td>
<td>473</td>
<td>10</td>
<td>119</td>
<td>549</td>
</tr>
<tr>
<td>25.</td>
<td>Telangana</td>
<td>20</td>
<td>2328</td>
<td>79</td>
<td>25</td>
<td>234</td>
<td>205</td>
</tr>
<tr>
<td>26.</td>
<td>Tripura</td>
<td>3</td>
<td>49</td>
<td>3</td>
<td>NA</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>27.</td>
<td>Uttar Pradesh</td>
<td>64</td>
<td>5922</td>
<td>309</td>
<td>124</td>
<td>168</td>
<td>122</td>
</tr>
<tr>
<td>28.</td>
<td>Uttarakhand</td>
<td>24</td>
<td>409</td>
<td>102</td>
<td>3</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td>29.</td>
<td>West Bengal</td>
<td>30</td>
<td>1022</td>
<td>108</td>
<td>12</td>
<td>53</td>
<td>90</td>
</tr>
<tr>
<td>30.</td>
<td>Asde Islands</td>
<td>NA</td>
<td>7</td>
<td>1</td>
<td>NA</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>31.</td>
<td>Chandigarh</td>
<td>3</td>
<td>27</td>
<td>3</td>
<td>1</td>
<td>NA</td>
<td>3</td>
</tr>
<tr>
<td>32.</td>
<td>DSN Haveli</td>
<td>NA</td>
<td>10</td>
<td>NA</td>
<td>NA</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>33.</td>
<td>Daman &amp; Diu</td>
<td>NA</td>
<td>7</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>2</td>
</tr>
<tr>
<td>34.</td>
<td>Delhi</td>
<td>27</td>
<td>188</td>
<td>36</td>
<td>21</td>
<td>17</td>
<td>36</td>
</tr>
<tr>
<td>35.</td>
<td>Lakshadweep</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>36.</td>
<td>Pondicherry</td>
<td>4</td>
<td>85</td>
<td>10</td>
<td>NA</td>
<td>11</td>
<td>46</td>
</tr>
</tbody>
</table>

         2) Manorama Year book 2017, P.873. (Notes : N.A. : Not available.)
### Table No.3
**All India Growth of students enrolment in higher education**

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Year</th>
<th>Total enrolment in lakh</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1984-85</td>
<td>34.0</td>
</tr>
<tr>
<td>2.</td>
<td>1990-91</td>
<td>49.2</td>
</tr>
<tr>
<td>3.</td>
<td>2000-01</td>
<td>84.0</td>
</tr>
<tr>
<td>4.</td>
<td>2001-02</td>
<td>89.6</td>
</tr>
<tr>
<td>5.</td>
<td>2002-03</td>
<td>95.2</td>
</tr>
<tr>
<td>6.</td>
<td>2003-04</td>
<td>99.5</td>
</tr>
<tr>
<td>7.</td>
<td>2004-05</td>
<td>104.8</td>
</tr>
<tr>
<td>8.</td>
<td>2005-06</td>
<td>110.3</td>
</tr>
<tr>
<td>9.</td>
<td>2009-10</td>
<td>146.25</td>
</tr>
</tbody>
</table>

**Source:** Compiled and computed from UGC, Annual Report (2010-2011)

### Table No.4
**Faculty-wise Enrolment (2012-13)**

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Faculty</th>
<th>Total enrolment (lakhs)</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Arts</td>
<td>81.6</td>
<td>37.9</td>
</tr>
<tr>
<td>2.</td>
<td>Science</td>
<td>39.2</td>
<td>18.6</td>
</tr>
<tr>
<td>3.</td>
<td>Commerce/Management</td>
<td>37.6</td>
<td>17.5</td>
</tr>
<tr>
<td>(1)</td>
<td>Sub-Total</td>
<td>158.4</td>
<td>74.0</td>
</tr>
<tr>
<td></td>
<td>Professional Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Education</td>
<td>7.4</td>
<td>3.5</td>
</tr>
<tr>
<td>5.</td>
<td>Engineering/Technology</td>
<td>33.3</td>
<td>15.5</td>
</tr>
<tr>
<td>6.</td>
<td>Medicine</td>
<td>7.5</td>
<td>3.5</td>
</tr>
<tr>
<td>7.</td>
<td>Law</td>
<td>4.0</td>
<td>1.9</td>
</tr>
<tr>
<td>(2)</td>
<td>Sub-Total</td>
<td>52.2</td>
<td>24.4</td>
</tr>
<tr>
<td>8.</td>
<td>Agriculture</td>
<td>1.0</td>
<td>0.5</td>
</tr>
<tr>
<td>9.</td>
<td>Veterinary Science</td>
<td>0.3</td>
<td>0.1</td>
</tr>
<tr>
<td>10.</td>
<td>Others</td>
<td>2.3</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>215.0</td>
<td>100.00</td>
</tr>
</tbody>
</table>

**Source:** Compiled and computed from UGC, Annual Report (2012-2013)

### Table No.5
**Stage-wise Enrolment of students (2012-13)**

<table>
<thead>
<tr>
<th>Sr.</th>
<th>in lakhs</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Graduate</td>
<td>184.7</td>
</tr>
<tr>
<td>2.</td>
<td>Post-Graduate</td>
<td>26.1</td>
</tr>
<tr>
<td>3.</td>
<td>Research</td>
<td>1.8</td>
</tr>
<tr>
<td>4.</td>
<td>Diploma/Certificates</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>215.0</td>
</tr>
</tbody>
</table>

**Source:** Compiled and computed from UGC, Annual Report (2012-2013)
Table No.3 shows that the Higher education comprises of graduate and post graduate and post graduate courses, research and Diploma or certificate courses. Total enrolment in higher education rose from 34 lakh in 1984-85 to 49.2 lakhs in 1990-91 and it rose further to 84 lakh in 2000-01 and was of the order of 110.3 lakhs in 2005-06 as per the University Grants Commissions Annual Report for 2005-06. The average Annual growth of enrolment for the 21 year period (1984-85 to 2005-06) was of the order of 5.8 percent out of total enrolment of 110.3 lakhs, women students were 44.66 lakhs constituting 40.5 percent in 2005-06.

Table No.4 shows that the number of students enrolled facultywise. Data reveals that 158.4 lakh (74.4 percent of total) were enrolled in general education viz. Arts, Science and Commerce/Management. 52.2 lakh (24.4 percent) were enrolled in professional courses. viz. Engineering/ Technology, Medicine, Education and Law, indicating the highest percentage for Engineering/ Technology followed by Medical courses. In a India, where 60% of the population is engaged in agricultural occupation, enrolment in agricultural courses were merely 1.0 lakh along with veterinary science a miniscule 0.3 lakh. There is need for a policy change to reduce this imbalance. Table No.5 indicates the stagewise enrolment reveals that the 184.7 lakh students (85.9 percent of total) were enrolled at the graduate level, 26.1 lakh students (12.2 percent of total) were enrolled at post graduate level, 2.4 lakh students. (1.1 percent) were enrolled in certificate/Diploma courses and only 1.8 lakhs (0.8 percent) were enrolled for research.

**Education and Economists view :**

According to Todaro and Smith, education contributes to economic growth in the developed and developing countries in the following ways :

1) It helps in creating a more productive labour force and endowing it with increased knowledge and skills.
2) It helps in providing widespread employment and income earning opportunities for teachers, school and construction workers, textbook, and paper printers, school uniform manufacturers etc.
3) It helps in creating a class of educated leaders to fill vacancies left by departing expatriates or otherwise vacant positions in government services, public corporations, private business and profession.
4) It helps in providing basic skills and encourages modern attitudes in the diverse segments of the population.

**Conclusion :**

According some economists, a more role of education should be to transform people's value system by improving their knowledge of their own position in the wider National and International contexts. Without such transformation, the institutional and organisation reforms needed for modern economic development cannot be effectively carried out. Economic history amply demonstrates that LDCs (like India), trying to catch up with the west, have made 'Over investment' in education relative to their capacity. But this economic activity later proved to be key to their successful development as the case in Japan.

**References :**

CONTEXTUAL E-CONTENT DEVELOPMENT FOR CONTENT ENRICHMENT IN HIGHER EDUCATION

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Department of Education, Department of Education, Department of Electronics
Shivaji University, Kolhapur, Shivaji University, Kolhapur, Shivaji University, Kolhapur

Abstract

Information and communication technologies brought-in tools and techniques in the field of education that introduced new concepts of teaching and learning. E-Content generation and adoption procedures are proposed for the effective teaching and learning of different subjects. There is remarkable digital divide among urban and rural areas. The content and its quality are the key components for the development of e-content. The overall goal is to suggest curriculum guidelines for content enrichment through the use of e-content suitable for different aspects of higher education in rural areas considering several social, economical and technological constraints in their education. Enhancing the knowledge and experience of their field of interest might be helpful to them in future. The content such as e-text, PPT, animations & graphics and audio-visual lectures could be developed as per the need and requirement of the learners which would enhance their quality of learning. This paper is an attempt to make suggestions regarding curriculum guidelines for developing e-content with reference to higher education based on secondary resource of data.

GENERAL TERMS: Higher Education, E-Learning, Information & Communication Technology (ICT), Rural areas.

KEYWORDS: E-Learning, ICTs, Educational Technology, E-Content Development, Rural areas, Higher education.

Introduction

The tremendous development in Information and Communication Technologies (ICTs) has encouraged e-learning. Use of computers in education sector can be traced back to the early 1980s when simple word processors were in use. The Internet has revolutionized the computer and communication world. This provided us with great learning opportunities by having access to large amount of information with benefits in terms of time and cost savings. The modern educational technology facilitates design, delivery and management of educational activities for learners. This could be face-to-face in a lecture hall, online, or combination of both. Imparting education in this way is termed as e-learning (electronic learning).

In the rural areas, development of ICTs and hiring of full-time faculty requires a lot of resources. Professionally trained educators mostly prefer to work and reside in urban areas. Consequently, the population of rural areas is deprived of quality educators and thus quality education. E-content equipped with the latest technology may help students progress in various ways such as better job opportunities, promotions at work, increase in knowledge and experience and also learn new technologies for future use.

The MHRD, under the National Mission on Education through ICT has allotted funds for development of e-content for 87 UG subjects. It is proposed to create high quality, curriculum based, interactive content in different subjects across all disciplines of social sciences, arts, fine-arts & humanities, natural & mathematical sciences and linguistics and languages. (indiatimes.com) Although the schemes and technologies are been planned, there is a very crucial need to design effective curriculum for students in rural areas. The development of E-content in rural areas considering various Economical, Psychological and Sociological aspects is important. If India dreams to be a superpower /developed nation in near future, its high time to look into the problems of rural parts of the country. As education is the only way to success and development. The students from rural areas also should get equal facilities and scope of high quality of education.

Need Of The Study

According to the ASER 2017, the proportion of youth not enrolled in school or college increases with age. At age 14, the percentage of youth not enrolled is 5%. By age 18, this figure increases to 30%. Overall, about 5% of youth are taking some type of vocational course. This includes those who are enrolled in school or college as well as those...
who are not currently enrolled. A substantial proportion of youth in the 14-18 age group are working (42%), regardless of whether they are enrolled in formal education or not. (ASER, 2017)

The ASER report indicates cumulative numbers from urban and rural areas. The rural youth need to get access to latest growth and developments in the field of education. Several rural youths are still unaware of the various advances in education which allows them to acquire knowledge of their fields of interest. Introducing these availabilities to the youths to update them with the available learning resources is very much necessary.

Around 25% of the youth who dropped out after grade 8 said they did so due to financial reasons. Worryingly, a large number of students (34% of boys and 19% of girls) said they dropped out due to lack of interest, pointing to deficiencies in the curriculum and teaching infrastructure. Over 60% of youth in the age of 14-18 had aspirations to study beyond grade 12. (ASER, 2017)

It is necessary to focus on meeting the aspirations of India’s young and providing them with an education system that is innovative, proactive and prescient and yet deeply invests in foundational skills. The statistics show that we lack efficiency of developing curriculum that could enhance the interest of students in learning. These numbers can be changed if we modify the style of learning, increase the use of technology and media, and develop compatibility between students and new techniques of learning i.e. through effective use of e-content in education in rural areas. As the use of technological devices such as smartphones and laptops have become common now a days, large number of rural youths also use these devices. Making appropriate use of these devices to provide the rural youth with e-content to facilitate learning in their own environment is necessary. Designing curriculum for the rural youth to prepare graduates for an uncertain world, equip them with the knowledge and skills of their chosen profession and give them a competitive advantage in a globalized and competitive workplace is a significant challenge which could be accomplished through e-learning in rural areas.

**Objectives Of The Study:**

- To get cognizance of the concept E-content through indepth review of related literature.
- To find the current status of E-learning initiatives in India with reference to private sectors and government organisations.
- To suggest curriculum guidelines for developing E-content for content enrichment for higher education.
- **E-Content (Electronic Content)**

Wide varieties of digital materials which are of educational significance are available online. Some of these quality materials are available free of cost or with minimum restrictions can be used, reused and modified by teachers and students for their teaching and learning. As textbooks are too expensive, students are switching from textbooks to digital course materials. These materials provide both teachers and students a greater interactivity and social collaboration. One of the materials which can be designed and developed, used and reused and distributed is E-content.

E-content is becoming popular in urban areas because of its flexibility of time, place and pace of learning. E-content includes all kinds of content created and delivered through various electronic media. E-content can be delivered over network based electronic devices.

“E-content is the digital text and images designed to display on web pages.” –Oxford Dictionary

“Encompassing all data & information that can be displayed, processed, stored and transmitted electronically is E-content.”–OECD, 1999

“E-content is basically a package that satisfies the conditions like minimization of distance, cost effectiveness, user friendliness and adaptability of local conditions.” - Saxena Anurag (2011)

With reference to the above definitions E-content could be stated as, the digital form of learning material which is developed by the use of technological devices. Thus, the content which is sourced through electronic media is e-content. It is the most easily accessible & flexible means of learning. Well developed e-content can be delivered
many times to different learners. Individual course components like units, lessons and media elements such as graphics and animations can be reused in different contexts. E-content could be in form of digital textbooks, articles, videos or multimedia.

**Current Status Of E-Learning Initiatives In India**

Although the foundation of education is still reading, writing and arithmetic, today’s students need broader education. Contemporary classroom, hence, needs to deliver live instruction, video content delivery, student to-student interactions via videoconferencing, remote test administration, up-to-date materials, self-learning etc. The Indian education market is estimated to be worth Rs 5.9 trillion in 2014-15 against Rs. 3.33 trillion in 2011-12. With nearly half the population of India below the age of 25 and increasing penetration of Internet and mobile devices in this demography which is expected to reach 250 million soon, rivaling the US and second only to China, India’s potential as a huge market for e-learning is enormous. (Yadav, 2016)

E-learning in India can be classified in two major sections: Government Initiatives and Private Sector Programs.

From the above study, it can be specified that there is a vast availability of e-content resources in India. Effective management of these resources may encourage the total concept of e-learning in rural areas for higher education. Effective use of the above resources may encourage new trends of learning, such as collaborative learning, blended learning, micro-learning (SWAYAM courses), video-learning etc among UG students. Encouraging the use of e-content may result in quality learning experiences, support creativity, encourage high order thinking, develop skills and respond to the cognitive needs and development of the UG students in rural areas.

**Curriculum Guidelines For Developing E-Content For Content Enrichment Of Ug Students In Rural Areas**

After screening the processes in different aspects (Economical; Psychological, Sociological) which identified certain criteria such as aim, objective, local needs, age(maturity level), available resources, geographical conditions, economical conditions etc. , the following steps may be applied as curriculum guidelines for developing E-content for content enrichment in higher education.

1) **Diagnosis of needs**

(Based on geographical conditions,local needs like differences in language or dialects and availability of resources like Internet/ broadband connectivity, wi-fi and infrastructure.)

Following are the sources through which the needs of the students could be diagnosed:
2) Formulation of learning objectives
(Based on the context defining the purpose of What, Who, Where, When and How)
Following areas could be considered while formulating the learning objectives,
- Student’s experiences
- Local needs of the students
- Student’s field of interest
- Global context

3) Selection of content for e-content development
(Based on the syllabus / content prescribed by the University for UG students)
Following steps could be considered while selecting the content for e-content development
- Analyzing the curriculum in context to the validity and utility of the content
- Select abstract / subjective and precise topics
- Consider significance of the content and interest of the students

4) Organization of learning content
(To encourage exploration of knowledge related to the prescribed content of UG syllabus)
Learning content can be organized in the following ways,
- Grouping: based on related subjects, key concepts, trends and issues
- Placement: sequencing from simple to complex and concrete to abstract

5) Selection of learning experiences
(As per the learning content, where teacher is the facilitator, E-content is the source of learning activity and the criteria applicable is the rural context)
Such learning experiences may derive the following results among students performance at UG level:
- Promote intellectual development
- Stimulate learners to engage in higher levels of thinking & reasoning
- Help students contextualize information
- Facilitate self-regulated learning

6) Organization of learning activities
Learning activities should be sequenced from:
- Known to unknown / familiar to unfamiliar
- Simple to complex
- Concrete to abstract

7) Evaluation / Feedback
Activities determining the accomplishment of objectives could be involved in the evaluation process
- Use of online evaluating software tools (templates, checklist….)
- Story-centric games which encourage application of knowledge
Feedback could be derived from
- Course end surveys (to seek students’ opinion)
- Comparing performance of students
Reflective essays on blogs by students
Organizing focus group meetings

Conclusion:
The above steps adopted by Hilda Taba’s Grassroot model of curriculum development are based on the reviews and observations. These steps are suggested to develop curriculum guidelines for E-content for content enrichment with reference to higher education.

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DESIGNING CONNECTED CURRICULUM FOR THE POST GRADUATE COURSE IN EDUCATION

Mr. Vidyanand Khandagale

Miss. Asmita Shinde

Abstract
Curriculum has been conceptualised as the formal as well as informal learning experiences that occur inside and outside of the classrooms. Although, it needs to have sound historical, philosophical, psychological as well as social foundations, the political ideologies of ruling governments influence it strongly. Distinct disciplines of knowledge shape curriculum and it has its own principles, research theories and practices. Thus, curriculum and curricular practices are the backbone of the education system or for that matter, any educational course. On the basis of diverse ideologies, it has been perceived and conceived in different ways. This diverse range of approaches has resulted into various curriculum construction models designed by curriculum framers. Eventually curriculum designed for higher education largely depends either on the technical-scientific or non-technical non-scientific approaches. However, incorporating a single approach is inadequate to enable students to achieve the competencies that are domain specific. The fundamental functionality of Universities is to cater to teaching and research. However, in the present context, it is commonly found that Universities concentrate at either of these two functionalities. The Connected Curriculum Framework aims at establishing a mutually beneficial relationship between teaching and research. It thus, can be potentially beneficial to higher education as well as Universities. This paper explores the six dimensions and possibilities that the value–based connected curriculum framework offers to higher education. Keeping in view the world-wide trends in curriculum reforms, the researchers have made an attempt to find out the extent to which the connected curriculum framework is practised in the Master of Education course and based on the status and need analysis the connected curriculum design for the said course has been developed.

Key Terms: Connected Curriculum, University, Higher Education

Introduction
Universities are formal institutions that impart higher education under various faculties. This includes undergraduate as well as post-graduate courses. It is also a hub of extensive research activity carried out by teachers as well as research students. Throughout the history of modern universities, it has been found that universities have been primarily developed with the aim to not only cater to higher education and research but also integrate both these functions. The Humboldtian model of Higher Education is based on this very core principle that teaching should be directed by research and that education and research should be combined holistically. As per this model, universities should provide an educational system which should be based on objective knowledge and analysis and should provide students the academic freedom to engage themselves in the course of study of their choice, without being hindered. Even the Robbins Report published by the United Kingdom in 1963 highlighted the importance of intertwining teaching and research closely. The major conclusion of this report regarding universities was as follows, “Such institutions should have four main objectives essential to any properly balanced system: instruction in skills; the promotion of the general powers of the mind so as to produce not mere specialists but rather cultivated men and women; to maintain research in balance with teaching, since teaching should not be separated from the advancement of learning and the search for truth; and to transmit a common culture and common standards of citizenship”. The University Grants Commission (UGC) established by the Government of India in order to maintain quality assurance for higher education in India has one of its main objective: improving undergraduate education in colleges through better connection and coordination with post graduate programmes in the universities. The National Assessment and Accreditation Council (NAAC), an autonomous body under the UGC defines one of its specific task of engagement and endeavour as: stimulating the academic environment for promotion of quality in teaching-learning and research in higher education institutions. Thus, the modern universities have emphasized on the strengthening of the relationship between teaching and research. However, in recent decades, teaching and research are being looked upon as two distinct functions.
According to a study of academic profession in 14 countries (Boyer et al., 1994) it was found that most teachers tend to choose either teaching or research. Even in countries like the United States and Russia, almost 66.67% of teachers favour teaching. The gap between teaching and research is, thus, widening. In India, the dual function of teaching and research is found to be undertaken in equal measure only by the post-graduate level teachers on the university campuses. But even here, teachers are found to be lacking in either of the functions or both.

In the twenty-first century, universities undoubtedly possess great potential to address the needs of the students. They need to shoulder a huge responsibility towards knowledge, various disciplines and faculties, the intricate process of learning as also the society. In order to empower universities to take up these challenges, curriculum reforms are introduced from time to time. These reforms are envisaged so that students achieve academic proficiency, master basic knowledge, skills and competencies and in the long run are prepared to become active and successful citizens to be involved in an increasingly diverse society. At this juncture, it becomes highly essential that the interconnectedness between teaching and research is valued and embraced.

The Connected Curriculum Framework for Higher Education put forth by Professor Dilly Fung, University College London, is a value-based framework for developing a mutually beneficial relationship between university teaching and research. It supports interactions within and across disciplines and promotes the establishment and nurturing of effective connections between teachers and students on the university campus and the local communities. The basis of this framework is the theory that students at all levels of the curriculum can benefit in multiple ways by engaging actively in research and enquiry. More so, at every level of the curriculum, when diverse students collaborate actively in research and enquiry and extend their ideas and findings to others, education and research are potentially enriched.

Keeping in view the world-wide trends in curriculum reforms and the crucial importance of the connected curriculum framework, the researchers have made an attempt to explore the six dimensions of the framework [namely - i) students connect with researchers and with the institution research ii) a throughline of research activity is built into each programme iii) students make connections across disciplines and out to the world iv) students connect academic learning with workplace learning v) students learn to produce outputs- assessment directed at an audience vi) students connect with each other across phases and with alumni ;] and also the possibilities that the value–based connected curriculum framework offers to the post graduate course in education.

Review Of Related Literature

Elsen, M. et.al., (2008) in their research ‘How to strengthen the Connection between Research and Teaching in Undergraduate University Education’ concluded from a review of policy documents and research literature that if a university chooses to make the linkage between teaching and research strong, it can be achieved by involving students more often to participate in research as they contribute insights that are new to the field rather than making them learn the existing insights.

Gosper, M. and Ifenthaler, D. (2014) in their research entitled ‘Research-Based Learning: Connecting Research and Instruction’ have presented a theoretical insight into Research-Based Learning and teaching which blends teaching, learning and research. The researchers have introduced a curriculum and teaching approach for descriptive and inferential statistics using Research-Based Learning. The conclusions of the research are: i) Research-Based Learning strategies possess the potential to integrate teaching, learning and research holistically. ii) The learning experiences of the students can be influenced by Research-Based Learning and the students can be provided with work competencies required in the twenty-first century.

Fung, D. (2016) in the article entitled ‘Engaging Students with Research through a Connected Curriculum: An Innovative Institutional Approach’ has introduced the Connected Curriculum Framework and its philosophical foundations. The researcher has discussed various modes through which the Connected Curriculum Framework can be put into practice and has concluded that if these modes are implemented, students’ education within their course
of study will be boosted and they will get new opportunities to connect with researchers, with each other and with the outside communities.

Chatterjee, S. (2016) in her article ‘Perspective on combining Teaching and Research in Indian Academic Institutions: The Need of the Hour’ mentions that classroom teaching is complemented by incorporating elements of research. While describing the best practices at the IIS University, Jaipur the author states that employing small research problems based on matters of local relevance provides learners with the opportunities to understand the real world applications of the syllabus content; encouraging learners to select scientific research papers to present as a seminar inculcates the habit of reading research papers and incorporating research thrust areas while covering topics of the curricular content enhances the contextual knowledge of the learners helping them to look at the same things with a different point of view.

Camacho, M. et.al., (2017) in their research entitled ‘Research Based Learning in Higher Education: A Review of Literature’ from their review analysis of 50 selected studies concluded that Research Based Learning is dominantly implemented for subjects like Chemistry and Biology, usually in laboratory settings. The researchers have suggested that there are inadequate research designs available to study the impact of Research Based Learning that comprise of moderating variables such as motivation, self-efficacy or engagement.

**Objectives**

i) To analyze the post-graduate curriculum of education and the course-level learning outcomes of the same.

ii) To find out the extent to which the connected curriculum framework is practised in the post-graduate course in Education by identifying the relevant practices already taking place in the department.

iii) To develop a connected curriculum design for the said course based on the status and need analysis in order to stimulate and enrich the learning experiences of the students.

**Research Design**

The researchers have employed the qualitative method of research. The six dimensions of the Connected Curriculum Framework for Higher Education put forth by Professor Dilly Fung, University College, London were utilized to analyze the post-graduate curriculum of education and the connected curriculum framework design was developed for the post-graduate course in education.

**PLAN AND PROCEDURE OF THE RESEARCH**

1. Phase I: Analysis of the Post-Graduate Curriculum of Education
2. Phase II: Analysis of the course-level outcomes of the Post-Graduate Course of Education
3. Phase III: Interview of the Post-Graduate Faculty of the subject Education
4. Phase IV: Development of the Connected Curriculum Design for the Post-Graduate Course of Education

In the first phase of the present research, the researchers analyzed the post-graduate curriculum in education. After the analysis of the curriculum, with the help of the course outlines, the course-level learning outcomes of the course were analyzed. The post-graduate faculty of education were interviewed to identify the practices already taking place in the department and thus, the extent to which the connected curriculum framework is practised in the Master
of Education course was found out. On the basis of the status of the current educational practices prevalent in the department and need analysis, the connected curriculum design was developed for the post-graduate course in education in order to stimulate and enrich the learning experiences of the students.

Findings

1) At every level of study, up to some extent, students encounter specific questions addressed by researchers. Teaching methods, student assessments and other aspects of departmental practices can be adjusted in order to enable students to articulate their own research questions and engage them actively in research and enquiry.

2) Students do not have regular opportunities to learn about the institution’s research and other current research relevant to their studies. They learn about certain researches if they attend the viva of the M.Phil. or Ph.D. students. Students are not meeting with researchers or engaging with their work. They are exploring the intellectual, policy-related, practical and ethical challenges associated to only their own M.Ed. dissertation and recognize only the relevance of their dissertation to professional life more widely.

3) A well designed core sequence of modules, units and/or learning activities is found in all the subjects of the programme through which students steadily build their research skills and understandings but this is explicit to students only up to some extent. Challenging students to make intellectual connections between different elements of their programme happens occasionally. Students can have some flexibility and can even take risks with their research-related activities but they prefer not to do so.

4) The programme of study is structured in such a way that students need to step outside their home discipline and make explicit connections between disciplinary perspectives. Through making interdisciplinary connections, students are, up to some extent, challenged to address complex global challenges.

5) All students on the programme are able to analyse the ways in which their academic learning is relevant to the world of work. They also get some opportunities to prepare for the workplace. Students can articulate effectively the skills and knowledge they have developed through their research-related activities as well as through their wider studies and experiences and can also showcase these to future employers.

6) During internships, student assessments are outward-facing, directed at an audience, thereby enabling them to connect with local and wider communities face-to-face. Student assessments across the programme are suitably varied, enabling them to develop a range of skills including expertise in digital practices and communications. In order to improve their work, students are required to revisit and use feedback only on their formative tasks and not on their summative tasks.

7) Students have frequent opportunities to meet and participate in collaborative enquiry with one another in diverse groups. However, they are not building connections with students in other year groups. Although students can meet and learn from diverse alumni and build a strong sense of belonging to an inclusive research and learning community, they lack in the same.

The Connected Curriculum Design For Post-Graduate Course In Education

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Dimensions of Connected Curriculum</th>
<th>Activities/Tasks</th>
<th>Nature</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Students connect with researchers and with the institution’s research</td>
<td>1) Introducing the principles, practices and values that form the basis of research in the discipline and in</td>
<td>1) As part of the orientation programme at the beginning of the course</td>
<td>1) Developing understanding of the similarities and differences in the process of research under different</td>
</tr>
</tbody>
</table>
2) Meeting any one M.Phil./Ph.D. scholar or faculty member from the department and discussing with him/her about his/her research

3) Conducting reviews of researches or literature on a given research title (other than their own M.Ed. dissertation)

2) Working in pairs to study the work of the M.Phil./Ph.D. scholar or faculty member

3) Undertaking the review of relevant literature

2) Enabling students to understand how researchers undertake the research activity and to create interest in the process of research

3) Building up students’ knowledge regarding the intellectual, policy-related, practical and ethical challenges associated with current research and recognizing their relevance to professional life

2. A throughline of research activity is built into each programme

1) Undertaking the development of a research-based product

1) Selecting a common theme and working in pairs to develop a research-based product such as an LOR, a multimedia package or an awareness programme etc.

1) Enabling students to make connections within all the elements of the course of study and developing a research-based product based on this understanding

3. Students make connections across subjects and out to the world

1) Undertaking a small-scale interdisciplinary research project related to core papers

1) Collaborating with students of other disciplines to analyse issues and find solutions

1) Enabling students to develop an inter-disciplinary approach towards learning

2) Working with research scholars in all kinds of disciplines

2) Enabling students to understand how researchers undertake the research activity and to create interest in the process of research

2) Developing students’ sense of...
| 4. Students connect academic learning with workplace learning |
|---|---|---|
| 2) Engaging students to act as research assistants to M.Phil./Ph.D. scholars or Department Faculty | research activities | belonging to an active learning and research community and building up students’ research related skills |
| 1) Open-ended Projects (Evidence-based Learning) | 1) Collaborating to compile, analyze, and use objective evidence for the concepts included in the units in core paper II: Psychology of the Learner and Learning Process | 1) Building up a scientific and research base for the better understanding of concepts in Psychology |
| 2) Reflective Diaries (Experience-based Learning) | 2) Maintaining reflective diaries for internship throughout the course, addressing the objectives of the internship | 2) Enabling students to re-think about their learning activities, to explicitly and purposively identify their learning outcomes, to relate their learning to their teaching practice and for self-evaluation |

<p>| 5. Students learn to produce outputs – assessments directed at an audience |
|---|---|---|
| 1) Engaging students in creating their own a) research article to be published in a journal | a) Carrying out a small-scale research on an individual level and writing the research article | a) Developing students’ research skills and assessing on a local or international level |
| b) Collaborating in | | b) Developing the |</p>
<table>
<thead>
<tr>
<th>6. Students connect with each other, across phases and with alumni</th>
<th>1) Newsletters</th>
<th>1) Collaborating with students of other year groups in the form of teams to cumulate educational and research information</th>
<th>1) Developing effective written communication skills, creation of an output that gives students voice beyond the programme</th>
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<tbody>
<tr>
<td></td>
<td>2) Mentoring schemes</td>
<td>2) During classes, in the form of peer mentoring or out of class mentoring from senior students</td>
<td>2) Enabling students to have positive role models who disseminate their knowledge and skills</td>
</tr>
<tr>
<td></td>
<td>3) Academic Alumni Meet</td>
<td>3) Engaging in collaborative enquiry regarding the research of the alumni</td>
<td>3) Developing an awareness of the different methods of research and the different ways in which researches can be conducted</td>
</tr>
</tbody>
</table>

b) blog/page on social media handle

c) presentation on a topic from any of the core papers

2) Designing a rubric (by faculty members) for students

pairs/groups to create the blog/page and learning from the responses obtained there

c) Researching on a given topic and creating an output from it

2) Formulating qualitative feedback statements

students’ expertise in digital practices and communication and assessing on a local or international level

c) Developing effective creativity and communication skills and assessment through peers

2) Providing qualitative remarks as feedback in order to enable students to improve their formative and summative tasks

6. Students connect with each other, across phases and with alumni

1) Newsletters

1) Collaborating with students of other year groups in the form of teams to cumulate educational and research information

1) Developing effective written communication skills, creation of an output that gives students voice beyond the programme

2) Mentoring schemes

2) During classes, in the form of peer mentoring or out of class mentoring from senior students

2) Enabling students to have positive role models who disseminate their knowledge and skills

3) Academic Alumni Meet

3) Engaging in collaborative enquiry regarding the research of the alumni

3) Developing an awareness of the different methods of research and the different ways in which researches can be conducted
References


THE HIGHER EDUCATIONAL STATUS OF RURAL PEOPLE OF MAHARASHTRA

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Abstract:
This research paper focused light on the reform of education. Education is the powerful instrument for progress of human society. Formal & informal are two type of education. Institutions, schools, colleges, and universities are examples of formal educations but there is no any other institution for informal educations. Good and honest education is required forever for every society. The education playing crucial role in the development of every sections of society. In time, some changes are occurred in everything hence there is a required reform in institutions and education is one of the most important institutions. Traditional and rudimentary tools or methods or curriculum of educations (primary, secondary, higher secondary or higher education system) of are not useful for new generation. The change is the rule of nature so there should be change in educational curriculum of higher educational system of nation.

In this paper there is discussion of educational curriculum of nation. Here, maximum populations are occupied at the country side and there are fragmentations and segmentations of society and people and this system is build on the basis of caste, creed and colour, at rural community where villagers are taking what type of education?, occupations and their monthly income.

Key words: Reform, Curriculum, Higher Education.

Introduction:
American educational philosopher John Due somewhere said that, “the education is the learning process.” When human being’s babies are taking birth that time a small baby having the biological shape but in time the small baby got the sociological touch or human environments and through this atmosphere the small baby is socially, emotional, mentally culturally developed.

Every survival it is essential for every human beings and every societies developed their educational policies for development of society and for sustainable progress of the change is the rule of nature’ and whatever things are made by human beings that; hl not How the Education is the most important weapon for progress of human beings.

Education is a light that shows the mankind the right direction to surge. The purpose of education is not just making a student literate but adds rational thinking. It is an engine for the growth and progress of any society. It not only imparts knowledge, skill and economic growth and survival. The institutions. Relationships and norms that emerge from higher education are instrumental in influencing the quality of society’s interactions, which underpin economic, political and social development.

Higher Educational has many purposes;
1] Acquisition of concrete knowledge and skills for youth.
2] Developing the ability to reason systematically about critical questions and issues in the new generation.
3] To place facts in the broader context of education.
4] To consider the moral implications of action and choices in the mind of new eras youth.
5] To communicates knowledge and questions effectively and arise the curiosity of youth in education.
6] To nurture a habit that promotes lifelong learning behaviours outside the formal settings and understanding new changes in educational curriculum and it accepts.
7] To developing the skills of analysis synthesis and argumentation and to make path finder of social and economical issues of society.

“When teachers are asked to develop a curriculum, part of the requirement is to formalize that undertaking by wring it in the form of curriculum document. The format of that document is almost invariably a stamen of the objectives,
content, method and assessment in that order, such a presentation may predispose teachers to adopt this format as a model for curriculum development, and thereby use an objectives model in the development stage. There would certainly be few, if any, curriculum documents where the objectives are presented at the end, even though this sequence might be a reflection of how the curriculum was developed. So the obvious logic in presentation need not parallel the method of development1.” (Brady, 1995, p.85)

Curriculum, from the Latin for ‘course’, is the content or subject matter that is taught. Curriculum is the foundation of the teaching, learning process. The development of program of learning and teaching resources, lesson plans and assessment of students, and even teacher education are all based on curriculum. Curriculum and curriculum developments at first glance appear to be of chief concern to educators, governments and parents and both have relevance and impact on the development of communities and prosperity. Education should promote values and ideals I society, as well as help the learner development a rational commitment to

- Equality – of status and opportunities,
- Freedom – of thought, expression, belief, faith and worship; as values in the life.
- Autonomy of mind as independence of thinking based on reason ,
- Autonomy of action – freedom to choose, ability and freedom to decide and ability and freedom to act. Care
- Care and respect for others – going beyond respecting their freedom and autonomy , concern about – being and sensitivity to all members of society to all members,
- Justice : social , economic and politica.2 (Preamble of Indian constitutions, _)

Day by day new changes are occurred in educational fields Neo – ICT Pedagogy in Teaching Education Programmes for next Generation. The most striking innovation in the field of education is the Pedagogy: “Pedagogy, from the Greek words for ‘Boy’ and ‘Guide’ refers to the arts or science of teaching or the techniques used to teach students. The notion of a teacher guiding students through a course of study pedagogy is the overarching concept; it refers broadly to the deliberate process of cultivating development within a given culture and society. From this point of view, pedagogy has three basic components I] curriculum, or the content of what is being taught II] methodology, or the way in which teaching is done ; and III] techniques for socializing children in the repertoire of cognitive and affective skill required for successful functioning in society that education is designed to promote”2(Adagale A . S.)

Information, Communication and Technology today’s valuable wards in the society:

Emergence of information and communication technology has ushered a new era our civilization in which digitalization has almost become a better alternative, because it has influenced every facet of human life including education. Transformation should take place in the way our teachers teach and students learn. The efforts of ICT is generally of sporadic nature in the education program. 21st century is the age of Information and Communication Technology. All over the world, there is a trend to use ICT in the teaching learning process. The teacher and learners must gain access to technology for improvement learning outcomes. Educational reforms include the successful designing and implementations of ICT in teaching learning process, which is the key to success. It involves use of computers computer software and other devices to convert, store and process, transmit and retrieve information and includes the services and experience various stages of learning such as critical thinking, problem solving, guided instruction, extra connect, cooperative learning and group monitoring.

Research Methodology:

Objective of Research paper:
1 To explore the existing concept of pedagogy in the rural students of Maharashtra.
2 To looking at the possibility to broaden the concept of I.C.T.
3 Is there need to have nuanced once understand the concept of Higher Educational Status Rural students.
4 To understand the problems & challenges faced by the rural students for higher education.

I] Hypotheses:
1] The rural students are facing problems of I.C.T. at remote region of Maharashtra.

II] Primary Data:
Primary data collected by the researcher through the interview schedule to understand the socio-economic and educational positions & problems of rural students. Before collection of the data interview schedule canvassed among the selected respondents from the universe to the authentic information as well as observation also used for it.

III] Secondary Data: The published materials i.e. magazines, periodicals, published literatures - books, newspapers cutting are used to analyze the real position of ‘landless agricultural labourers’ what particularly for rural students.

IV] Sampling Technique & size:
A purposive sampling technique is used for the selection of the ‘rural students’ to belong to the weaker section and other classes of society from five taluka [Bhokar, Biloli, Kinwat, Mukhed Naigoan] of Nanded district.

V] Study area:
The universe of study area is [Bhokar, Biloli, Kinwat, Mukhed, Naigoan] talukas of Nanded district of Maharashtra. It is selected 400 samples from the 27 villages of Nanded district from five talukas. Those respondents (men & women) are working in the only that 200 Landless agricultural laborers and 200 Marginal farmers of rural households are selected for the interview.

VI] Findings and outcome:
Our country is always called Agricultural Country because nearby 70 % of population is occupied at rural region and their original profession is farming and agriculture related business. Here, we understand educational and social and economical background of respondents. All these respondents belong to agricultural labourers educated and learning children and their parent’s educational, social and economical status and through this educational background we can analysis of their attitude towards higher education. Actually, the modern educational instruments are not reached at rural schools (primary, secondary and higher secondary) at Taluka or Tahshil and district level some modern and Digital equipment are used by those who have good financial position but these numbers are very minor and major numbers are those who has no good financial positions therefore through the primary information we can analysis the entire scenario of rural education learners.

Table No. 1.1 Respondent’s Castes

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Name of Caste</th>
<th>Marginal Farmers</th>
<th>Landless Agricultural Labourers</th>
<th>Total M.F. &amp; L.A.L.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
</tr>
<tr>
<td>1</td>
<td>Andh</td>
<td>3</td>
<td>2.5%</td>
<td>07</td>
</tr>
<tr>
<td>2</td>
<td>Banjara-Lamani</td>
<td>18</td>
<td>9.0%</td>
<td>06</td>
</tr>
<tr>
<td>3</td>
<td>Beldar</td>
<td>-</td>
<td>-</td>
<td>01</td>
</tr>
<tr>
<td>4</td>
<td>Bhoi-Zinga</td>
<td>01</td>
<td>0.5%</td>
<td>01</td>
</tr>
<tr>
<td>5</td>
<td>Chambhar</td>
<td>02</td>
<td>1.0%</td>
<td>03</td>
</tr>
<tr>
<td>6</td>
<td>Dhangar</td>
<td>02</td>
<td>1.0%</td>
<td>01</td>
</tr>
<tr>
<td>7</td>
<td>Dhobi</td>
<td>01</td>
<td>0.5%</td>
<td>-</td>
</tr>
<tr>
<td>8</td>
<td>Golewar</td>
<td>03</td>
<td>1.5%</td>
<td>02</td>
</tr>
<tr>
<td>9</td>
<td>Gond</td>
<td>09</td>
<td>4.5%</td>
<td>05</td>
</tr>
<tr>
<td>10</td>
<td>Gosavi</td>
<td>-</td>
<td>-</td>
<td>02</td>
</tr>
</tbody>
</table>
In the above table shows the Castes of rural areas and these are backward social, economical & culturally. In the modern era the constitutional facilities are available but in the remote areas all these facilities are not got to the respondents thats why modern educational facilities not introduced. Therefore all above castes are remain undeveloped because no availability of digital instruments at rural areas. They don’t know about the modern, digital and E education.

In short, at rural side there are not arrived new modern information communication technologies. So the rural are not competent with urban students.

**Respondent’s {Ego} Educational Qualifications: Table .1.2**

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Educational Qualifications</th>
<th>Marginal Farmers</th>
<th>Landless Labourers</th>
<th>Agricultural Total M.F. &amp; L.A.L.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Frequency</td>
<td>percentage</td>
<td>Frequency</td>
</tr>
<tr>
<td>1</td>
<td>Literate</td>
<td>3</td>
<td>51</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Illiterate</td>
<td></td>
<td>01</td>
<td>67</td>
</tr>
<tr>
<td>3</td>
<td>Primary</td>
<td>20</td>
<td>100%</td>
<td>22</td>
</tr>
<tr>
<td>4</td>
<td>Secondary</td>
<td>105</td>
<td>52.5%</td>
<td>76</td>
</tr>
<tr>
<td>5</td>
<td>Higher Secondary</td>
<td>15</td>
<td>07.5%</td>
<td>22</td>
</tr>
<tr>
<td>6</td>
<td>Graduation</td>
<td>04</td>
<td>02.0%</td>
<td>02</td>
</tr>
<tr>
<td>7</td>
<td>Post Graduation</td>
<td>02</td>
<td>01.0%</td>
<td>01</td>
</tr>
<tr>
<td>8</td>
<td>Professional Degree</td>
<td>02</td>
<td>01.0%</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>200</td>
<td>100%</td>
<td>200</td>
</tr>
</tbody>
</table>
In the above table No. 1.2 shows that respondent’s parents educational qualifications through this table, we can understand the children’s future; their educational orientation not fulfilled their educational desire. Here, 181 respondent’s parents are secondary school qualified then 68 respondents’ are illiterate and remained 44 respondents’ are primary school qualified then 37 respondent’s higher secondary school qualified. Only six and three respondent’s graduate and post graduate only two respondent’s professional qualification completed. In short, above table showing the children’s educational status.

**Respondent’s Primary & Secondary Occupations: Table .1.3**

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Occupations</th>
<th>Marginal Farmers</th>
<th>Agricultural Labourers</th>
<th>Total M.F.&amp; A.L.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
</tr>
<tr>
<td>1</td>
<td>Agriculture cum daily wages labourer</td>
<td>105</td>
<td>52.5%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Agriculture</td>
<td>41</td>
<td>20.5%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Agriculture cum cattling</td>
<td>6</td>
<td>03.0%</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Agriculture cum shop</td>
<td>2</td>
<td>01.0%</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Agriculture cum tailor</td>
<td>2</td>
<td>01.0%</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Agriculture cum fishing</td>
<td>1</td>
<td>00.5%</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Agriculture cum yearly contract labourer</td>
<td>6</td>
<td>03.0%</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Agriculture cum dairyman</td>
<td>11</td>
<td>05.5%</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Agriculture cum artisan</td>
<td>8</td>
<td>04.0%</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Agriculture cum drivers</td>
<td>6</td>
<td>03.0%</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Agriculture cum services</td>
<td>5</td>
<td>02.5%</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Agriculture cum company labourers</td>
<td>7</td>
<td>03.5%</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Agriculture labourer cum truck / Tractor drivers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Agriculture labourer cum labourers on truck / tractor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Agriculture Daily Wages labourers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Agriculture labourer cum Broom Makers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Agriculture labourer cum Basket Makers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Yearly contract basic labourers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Agriculture labourer cum Dairyman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Agriculture labourer cum Tailors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>200</td>
<td>100%</td>
<td>200</td>
</tr>
</tbody>
</table>

{The respondents No.’s are indicates in the brackets}
The table No. 1.3 shows the professional status of respondent’s social and financial position of respondent’s children; here maximum primary and secondary occupations are concerned with agriculture and non agricultural occupations and very few respondents having skillful occupations. Through these occupations respondents getting low level wages and due to this low wages. It is impossible to maintain the high qualification and their high ambitions for higher educational. In short, modern, post modern and developed educational instruments, particularly, digital, E-education new ICT. Therefore the rural students not getting financial and new types of digital education. It is expensive for the rural people then they are unable to provide the modern education to their children. 

**Conclusion:** the Governments provide GOI scholarship for students. At rural areas schools and junior colleges are not meritorious students are not fully equipped studio with projectors, no lectures rooms with no projectors, no computer lab with internet facilities. No school campus equipped with free Wi-Fi facilities. No auditorium and no seminar hall. No hostel for both boys and girls and no canteen and no mess for those are interested. no cold RO water drinking no free medical facilities and no Training and placement cell. No sport facilities and no reprographic facilities are available for rural students. Therefore new ICT syllabi are not implementing at rural areas, NCRT, CBSC syllabi pattern at rural areas.

**References:**

PERCEPTION OF BIOLOGICAL CONCEPTS AMONG HIGHER SECONDARY TEACHERS: A STUDY

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Shivaji University, Kolhapur

Prof. Dr. Pratibha Patankar
Professor and Head, Department of Education, Shivaji University, Kolhapur

Abstract
Biology is an important subject in curriculum. It helps to develop the scientific attitude, scientific temper, logical reasoning, scientific literacy, awareness of environmental issues, and respect about surrounding life among students. Biology textbook content is a authentic source of information for teachers & students. According to the National Focus Group has made important consideration about higher secondary biology curriculum that, scientific concepts should be within reach of the learner and also content components i.e. key terms, facts, concepts, principles, illustrations etc introduced and delivered in the classroom by meaningfully and simplified manner. The biology teachers play an important role to transfer biology content knowledge to the students. If the biology teachers already perceived some misconceptions or alternative conceptions regarding the biology concepts, it may transform as it is in their students. It will be adversely affected the conceptual understanding of the students.

In the present paper researchers has made an attempt to study the perception about Biological concepts among higher secondary teachers. The content analysis method and descriptive survey method was adopted for the study. The data collected from higher secondary biology teachers (N=50) with the help of researcher made questionnaire and analyzed with the descriptive statistics. It was found that most of the higher secondary biology teachers are unaware about the biological concepts in textbook. Most of the teachers are unable to differentiate between biological terms, facts, attributes and concepts.

The present paper will be helpful to know more about the present status of perception of higher secondary biology teachers and the content analysis.

Keywords: Biological Concepts, Content Analysis, Higher Secondary Teachers, Biology Textbook etc.

Introduction
Biology is the most common subject required for admission into many professional courses like medicine, pharmacy, nursing, agriculture, biotechnology, etc. Biology helps students to understand the environment and expects students to develop awareness, positive attitude, scientific temper, value and skills. According to National Focus Group (NFC) emphasis on the consideration of Higher Secondary Level biology curriculum that, scientific concepts within the reach of learner and content element (terms, facts, attributes, concepts, principles, theory, formula, diagrams etc) included and delivered in the classroom by meaningful and simplified manner.

At higher secondary level (XI & XII std) biology textbook play bridge role in between teachers and students. Biology textbook is considered to be the mirror of the curriculum and syllabus of higher secondary biology subject. American biology teachers solely rely on textbooks for use in their instruction and nearly 90% of teachers use a textbook 90% of their time (Ambibola & Baba, 1996). In India too biology teachers are solely rely on biology textbooks.

The biology textbook content consists of facts, terms, attributes, concepts, characteristics, generalizations, rules, laws, principles, signs, diagrams, formulae, arrangements, process, method, theories etc. Biology teachers fails to perceived these content elements scientifically and meaningfully it may creates misconceptions in teachers and these misconceptions may transform in students.

Review of Related Literature
Chavan, R.(2016) reported the difficulties in teaching biology concepts by science teachers at upper primary school. The study was descriptive in nature. The VI, VII & VIII grade science textbook biology content was analyzed by the content analysis technique and important biology concepts was identified. It is found that science teachers faced difficulties in comprehension of biological concepts like cell, sporogenesis, segmentation, etc.
Samuel & Babola (2011) studied science teachers and students perception about the difficult topics in the integrated science curriculum of lower secondary schools in Barbados. It is found that the certain science topics are perceived to be more difficult than other and this issue is related to science teachers’ classroom teaching. It is found that some science concepts are abstract and concrete in textbook, so difficult for teachers to provide concrete experience for the students to facilitate more effective learning. This is a major source of students misconception.

Abimbola (1998) studied ‘Teachers perceptions of important and difficult biology content secondary schools in Kwara state; it is found that ‘applied biology’ is an important concept perceived by the teachers. Ecology, chromosomes, cellular, growth and heredity, are the concepts perceived as difficult to teach by the teachers.

Finely & etal. (1982) studied the teachers perceptions of important and difficult science content. The results of the study reported that in biology photosynthesis, mitosis, meiosis, cellular respiration, chromosome concepts were found to be difficult to teachers and its creates alternative concepts in students.

Need and Rationale for the study
Based on the review teacher is a facilitator of knowledge. Biology is a quite observable, practical oriented subject. Biological concepts are interconnected to other subjects. Biology teachers play an important role in curriculum content transformation. Due to inappropriate or wrong perception about the biology concepts to biology teachers, there might be responsible to create false conceptual knowledge in students and it cause misconceptions in higher secondary students. At present teacher is important source of knowledge & information at higher secondary level. Hence, researcher found this study needful.

Research Question
1) Which are the biological concepts included in eleventh grade biology textbook?
2) Are the higher secondary biology teachers aware about the biological concepts?
3) Do the higher secondary teachers are able to identify & differentiate between biological facts, terms, attributes & concepts?

Statement of the Study
Perception of Biological Concepts among Higher Secondary Teachers: A Study

Terminologies used in the Study
Higher Secondary Teachers: In the present study the teachers who teach biology subject for higher secondary level (Junior College Level-XI and XII grade ) are considered as higher secondary teachers.

Biological Concept: A biological concept is assumed to be a set of specific objects, symbols or events which share common characteristic and can be referenced by a particular name or symbol. E.g. Cell

Perception: Perception is considered as a higher secondary teachers awareness about biology textbook content and their ability to identify and differentiate in content knowledge about terms, facts, attributes & concepts.

Objectives of the Study
1) To analyze the eleventh standard biology textbook and identify biological facts, terms, attributes and concepts
2) To study the perception about biological concepts among higher secondary teachers

Assumptions
The Biology textbook of XI grade consisting biological concepts recognized and produced by Maharashtra State Bureau of Textbook Production & Research Curriculum, Pune.

Delimitations
The present study is delimited to perception of higher secondary biology teachers in Karvir Tahsil of Kolhapur and also delimited to Biology Textbook produced by Maharashtra State Bureau of Textbook Production & Research Curriculum, Pune.

Tools & Research Methodology
The researchers attempt to analyze the XI grade biology textbook with respect to facts, terms, attributes, concepts. Hence, qualitative analysis-document analysis method is used. The main objectives is to study the perception of the biological concepts among higher secondary teachers, therefore researchers select survey method from descriptive survey.

**Sampling procedure and Sample**

In the present study fifty (N=50) higher secondary biology teachers working in different higher secondary schools in Karveer taluka were taken as a sample. The purposive sample technique has been adopted for the selection of sample. The population is considered as all the higher secondary biology teachers.

**Tools and data collection**

Researchers attempt to study the perception of biological concepts among higher secondary biology teachers hence, researcher made questionnaire, and unstructured interviews of biology teachers were used as tool for the data collection. The data was collected with the prior permission of the higher secondary biology teachers and open ended questionnaire was administered.

**Research Procedure**

1. Analyze the XI grade biology textbook and according criteria’s of facts, terms, attributes and concepts embedded in textbook content.
2. Preparation of open ended questionnaire based on analyzed biological facts, terms, attributes & concepts
3. Selection of the sample and collection of the data with the help of open ended questionnaire
4. Unstructured interviews of the higher secondary biology teachers

**Data Analysis**

Researchers analyzed the collected data with the help of statistical analysis i.e. tabulation and percentage. The qualitative analysis was done by the coding of the data.

**Table No.1**

**Content Analysis of Eleventh Grade Biology Textbook (State Board Syllabus)**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Chapter</th>
<th>Facts</th>
<th>Terms</th>
<th>Attributes</th>
<th>Concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diversity of Organism</td>
<td>The term classification was coined by A.P. de Candolle. Kingdom is the highest and species the lowest category</td>
<td>Plant, Animal, Synonyms, Organisms</td>
<td>Category, Taxon, Kingdom, Division, Class, Sub-class, Series, Order, Family, Genus, Species, Saprophytic, Phycobiont, Photobiont, Mycobiont</td>
<td>Growth, Reproduction, metabolism, Diversity, Fungi, Taxonomy, Classification, Nomenclature, Lichen, Virus, Fungi</td>
</tr>
<tr>
<td>2</td>
<td>Kingdom-Plantae</td>
<td>The Angiosperm possesses fruit with one or more seeds.</td>
<td>Chlorophyll, Chlorophyll-a, Chlorophyll-b, Zygote, Moss, Seta, Capsule, Fern, Taxonomic Key</td>
<td>Aquatic, Terrestrial, Motile, Biflagellate, Perennial, Vascular tissue, Heteromorphic, Prostrate,</td>
<td>Algae, Bryophyte, Pteridophyte, Angiosperm, Gymnosperm, Herbarium, Botanical Garden</td>
</tr>
</tbody>
</table>
### Biochemistry of Cell

- Cell is fundamental, structural, functional & unit of life
- Watson and Crick proposed the double helix structure of DNA in 1953.

#### Cellular Pool
- RNA, Protein, Lipids, Nucleotides, Hormones, Wax, Hydrogen atom, Nucleic Acid, Sugar, Purine, DNA

#### Anabolic reactions, catabolic reactions, Monosaccharides, Disaccharides, Plysaccharides, m-RNA, t-RNA, r-RNA, endoenzyme, Inhibitors, Co-factors, Ligases, Lysasa.

### Cell Division

- Growth and Development of every living organism depends on cell division
- Cell Division is of two main types- Mitosis and Meiosis

#### Daughter Cell
- Cell cycle, Nucleolus, Cytoplasm, Centriole, Centromere, chromosome, Nucleolus, Spindle fibre, Chiasmata

#### Interphase, G1-phase, Synapsis, S-Phase, Pachytene, Prophase, Metaphase, Anaphase, Telophase, Leptotene, Zygotene.

### Morphology of Flowering Plants

- Radicle, Root, Root cap, Raphe, Plumule, Pneumatophores, Coleorhiza, Bulb, Corm, Rhizome, stem, Tendril, Thorn, Cladode, Embryo Axis, Stipules, Petiole, Hypocotyl, Lamina, Inflorescence

#### Aggregate Fruit
- Meristematic region, Region of elongation, Region of absorption, Cell differentiation, Adventitious root, Tap root, Fusiform root, Conical root, Napiform root, Simple Tuberous root, Noon-Morphology, Anatomy, Venaenation, Floral Formula, Phyllode, Phyllotaxy,
<p>| 7 | Plant Growth Development | Growth is an irreversible increase in size, weight and volume of an organism. | Cytokinin, Gibberllins, Auxins, Abscissic acid, Ethylene, Florigen | Seed Dormancy, Seed Germination, Hypogeal Germination, Epigeal germination, Viviporous germination, Cell Elongation, Differentiation, Redifferentiation, Growth curve, Growth regulators, | Growth, Dormancy, Germination, Senescence, Photoperiodism, Photomorphogenesis, Phtochrome, Vernalization, Devernalization |
| 8 | Kingdom Animalia | The largest phylum of kingdom animalia is Arthropoda | Corallium, Leech, Crab, Sepia, Myxine, Saw fish, Hyla, Cobra, Parrot, Crow, Tiger, Wolf, Nerve cord, Anus, Tentacles, Papillae, Notochord, Gonad, Scales, Operculum, Forelimb, | Kingdom, Kingdom Animalia, Body Symmetry, Asymmetrical animals, Radially symmetrical animals, body cavity, Acoelomates, Nematocysts, Corals, Diploblastic, Aschelminthes, | Omnipresent, Dimorphism, Bioluminescence, Endoparasites, Parasites, Locomotion, Symmetry, Exoskeleton, Carnivorous, Oviparous, Placoid, Biconvex, Metamorphosis, Adaptation, Equilibrium, |</p>
<table>
<thead>
<tr>
<th>Page</th>
<th>Study of Animal Tissues</th>
<th>Cells usually work in groups called tissue.</th>
<th>Axon, Synapse, Cyton, Dendrons, Neuron, Ligamnet, Mast cells, Macrophages, Z-line, Epithelium, Squamous epithelium, Cuboidal epithelium, Columnar epithelium, Grandular epithelium, Endocrine gland, compound epithelium, Fibroblasts, Neuromuscular junction, Connective Tissue, Haversian system, sacromere, Tissue, Blood, Organ, Gland, Tendons, Ossein,</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Study of Animal Type</td>
<td>Cockroaches are omnipresent.</td>
<td>Animal, Abdomen, Cockroach, Thorax, Omnipresent, Species, Class, Chitinous, Cannibalism, Sexual Diamorphism, Nervous System, Respiratory System,</td>
</tr>
<tr>
<td>12</td>
<td>Human Nutrition</td>
<td>The processes which are providing energy to bodies are nutrition and respiration</td>
<td>Fat, Protein, Carbohydrate, Jaundice, Diarrhea, Vomiting, Heterodont, Diphodont, Disorder, Chyle, Marasmus, Nutrition, Digestion, Assimilation, Peristalsis, Absorption, Egestion, Indigestion, Constipation</td>
</tr>
<tr>
<td>13</td>
<td>Human Respiration</td>
<td>Hydrolysis of ATP converts it to ADP &amp; energy is released</td>
<td>ATP, ADP, COPD, Asthma, Nostrils, Vestibules, Pharynx, Larynx, Trachea, Branchioles, Lungs, Asbestosis, Emphysema, silicosis, Silicosis, Respiration, Breathing, Inspiration, Expiration,</td>
</tr>
<tr>
<td>14</td>
<td>Human Skeleton and Locomotion</td>
<td>The Human endoskeleton consists of 206 bones in</td>
<td>Central Axis, Thoracic cage, Backbone, Spine, Ligament, Endoskeleton, Exoskeleton, Immovable, Movable, Bone, Locomotion, Skeleton, Joints, Arthrology, Synothesis,</td>
</tr>
</tbody>
</table>
Observation and Interpretation
From the above Table No. 1 it is showed that, Eleventh grade biology textbooks consists of 14 chapters and according the content analysis criteria’s each chapter included the biological facts, terms, attributes & concepts.

Table No. 2.
Higher Secondary Biology Teachers Perception about the Biological Concepts

<table>
<thead>
<tr>
<th>Biology Teachers correctly identified &amp; differentiate between the Biology concepts &amp; terms, facts, attributes included in Biology textbook content</th>
<th>Biology Teachers couldn’t identified &amp; differentiate between the Biology concepts &amp; terms, facts, attributes included in Biology textbook content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Teacher</td>
<td>Percentage</td>
</tr>
<tr>
<td>07</td>
<td>14%</td>
</tr>
</tbody>
</table>

Graph No.1 .Higher Secondary Biology Teachers Perception about the Biological Concepts
Observation and Interpretation
From the above Table No.2 & Graph No.1 It is showed that, Most of the (86%) Higher secondary Biology teachers are not able to identify & differentiate between the Biology concepts & terms, facts, attributes included in Biology textbook content. Very few (14%) Higher secondary Biology teachers correctly identified & differentiate between the Biology concepts & terms, facts, attributes included in Biology textbook content.

Results and Conclusion
1) It is found that higher secondary Eleventh grade biology textbooks consists of 14 chapters and by the selected content analysis criteria’s each chapter consist of biological facts, terms, attributes & concepts. It is concluded that biology textbook content is made up of facts, terms, attributes, concepts, characteristics, generalizations, rules, laws, principles, signs, diagrams, formulae, arrangements, process, method, theories etc. The similar findings reported by Hsing Wang (1998), Myint Khine (2013) that content analysis is helpful for identify the important concepts, facts, theories, principles included science textbooks and content analysis increases the conceptual understanding of students and teachers.
2) Sampled higher secondary biology teachers among them most of the teachers are not aware about the biological concepts, they are unable to identify & differentiate between the biology facts, terms, attributes and concepts included in biology textbook content which supports the conclusion of James David Williams (2013) that the pre–service science teachers failed to identify and differentiate the key scientific terminology i.e. theory, fact, law, hypothesis. They were unaware about the scientific meaning of it.

3) Sampled higher secondary biology teachers among them very few teachers are aware about the biological concepts & they are able to identify & differentiate between the biology facts, terms, attributes and concepts included in eleventh grade biology textbook. It supports Lenton & McNeil (1993) in their research they found that some science teachers are able to differentiate in important concepts and categories and scientific facts.

It is clear from the preceding that there is still teachers have difficulty in identification and differentiation in different textbook content components. It is important reason and source of students misconceptions.

Acknowledgement

We are very grateful to Higher Secondary Biology Teachers in Karvir Tahsil of Kolhapur who helped for this research study.

References


11. Williams, J. D. (2013)“It’s just a theory”: trainee science teachers’ misunderstandings of key scientific terminology, Evolution: Education and Outreach 6:12
DEVELOPING CURRICULUM FOR HILLY NATURE IN ADIVASI ASHRAMSHALA

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Abstract:
India government tries its best from time to bring the tribal society on equal terms with other education classes to uplift the tribal society living in dense mountainous regions and to help them progress economically, educationally, traditionally, politically and socially. Indian government in 1972-73 started government Adivasi Ashramshala scheme. This scheme mainly helps in the tribal student living mainly in the dense mountainous and encouraging their interest in education also helps in educating the tribal student. This in turn raised their standard of living the tribal student can therefore stand with confidence in today world of competition. That the main function of this scheme and this also helps providing education to the masses in the dense mountainous and scheduled tribal area ST this work is done by the government Adivasi Ashramshala.

Introduction:
Surgana is one of the last green belts left in the state of Maharashtra. The area is also known as land of indigenous people because tribes like Kokna, Koli Mahadev, Warli are found in a large scale. Tribal people remain quite unassimilated from the rest of the India they maintain their own dress style, customs, religion, ceremonies as well as language. It makes impact on their lifestyle. They live their own lifestyle which is totally different than the modern society.

According to 2001 census, percentage of literate persons aged 7 years and above, among ST population of Maharashtra is 55.2 percent, which is lower than 76.9 percent reported for the state population as a whole. The literacy rate, which was 36.8 per cent in 1991 has increased by 18.4 percentage points in 2001. Though the literacy rate has improved substantially among ST population, it is still much below the literacy rate of the state population. The female literacy rate of 43.1 percent among ST population is lower as compared to 67.0 percent among the total female population of the state.

The highest and lowest female literacy rate of 52.9 per cent and 29.3 per cent are recorded among Koli Mahadev and warli respectively. Out of the total literates, 45 percent are literates without any educational level or have attained below primary level. The literates, 13.6 percent respectively. 13.4 percent are having educational level up to matric/higher secondary etc. levels, implying that about every 7th ST literates is matriculate. Literates with educational level of graduation and above are 2.1 percent. The educational level table shows that the drop out is conspicuous after the primary level and again after matric/secondary levels among major STs.

Government has started Ashramshala since 1972-73 for the rapid development in economics, educational and social status of the tribals of remote and mountainous region. The students learning in the Ashramshala, their parents are rarely educated up to SSC. Most of the parents have taken only primary education. Percentage of illiteracy in female parents is very high. Main job of all parents is farming in a rain season. In addition to farming, parents do the job like driving, construction work, shop keeping, worker in a company, anganwadi worker, making farmyard. Because of low educational level and nature of job socio-economic status is low. Some of the parents send their pupil in the Ashramshala because it provides free residential facility, food as well as clothes. Because to fulfill these basic needs are like challenges for the parents. From the observation, it is found that there is a huge effect of superstition on the parents as well as students stay and the place where school is situated are mountainous and remote area. Technology, Facilities of transportation are for away from the parents as well as students.
Since parents do not have knowledge about education system, different courses, and opportunities for carrier so they do not play role of guide in their pupils life. May this situation is causing the low occupational aspiration of the tribal students of Ashramshala. Since it is necessary to study the occupational aspiration of the tribal students and develop on activity based intervention programme and see its effectiveness. If these children would have high occupational aspiration it will helpful for them to move forward and make them more educated and put them in a higher profession in the era of globalization.

**Curriculum Of Remote Area :-**

The Combination
In Tribal Language
And Regular Language

Education In Mothertonge
Professional Syllabus Include

Curriculum
Sarround Area

Education To Create
Include Vocabulary

Naturality

Curriculum with
Information Technology

**Education In Mothertonge:-**
The contribution of student in education from tribal education and life style from medium of tribal Ashramshala. But every tribal student societys Language and customs on this way to tribal student has going difficult syllabus for reading, writing, speaking and understanding of government. Thisthe syllabus shall be creating in mother tongue of tribal, then will be beneficial.

**Education Include Naturality:-**
The tribal Ashramshala area in very difficult mountain, vallys, the tribal student mostly relation with naturality, this maked syllabus including naturality then will be tribal student involved with naturality and deserved natur.

**Curriculum With Information Technology:-**
The tribal Ashramshala student does competition with Urban, Rural area student in the period of competition. This in syllabus will be involved computer, information technology, education to tribal student then
opportunity increased presence of tribal student.

**To Create Vocabulary:-**
The Tribal Ashramshala student understand various words from English, Hindi, Marathi etc, in tribal mothertonge as life make dictionary for understanding tribal student.

**Professional Syllabus Include Sarround Area:-**
The student of tribal Ashramshala anytime live with nature. This student given professional education as life carpenter, making toyes from woods also various good make from woods etc, on their profession will be available emplioment.

**The Combination In Tribal Language And Regular Language:-**
The student of tribal Ashramshala come from various different parts of a tribal are from different languages this syllabus develop to combination between regular language and tribal language.

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THE ROLE OF COLLABORATIVE LEARNING IN ENGINEERING EDUCATION”

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Abstract
Nowadays industry requires engineering graduates who are prepared to solve the problems in multidisciplinary teams with proper communication. Collaboration involves active human engagement through sharing of authority and acceptance of responsibility in while working in a team, emphasis on cooperation instead of competition, which has become the need of time in twenty-first century. Learners learn and retain more when they actively participate in their learning process through speaking, sharing, interacting with others, which helps them to become life-long self-learners rather than only listening which occurs in our traditional lecture-based teaching approach. Collaborative learning is an educational approach, which encompassed all group-based instructional methods like Think-Pair-Share, JIGSAW, and Flipped Classroom, where learners actively involve and learn by doing. This paper outlines numerous benefits, challenges, and ways to overcome the constraints of student-centric learning in collaboration style in engineering education.

Introduction
Calls for reform in engineering education claim that graduate engineers lack the necessary training and experience in solving unstructured problems with creative thinking, working in groups, and communicating effectively with others. Thus, collaborative learning has received significant attention over the past several years. Adequate information about collaborative learning styles that support the emerging engineering education have been developed, however, their adoption is not up to the mark in developing countries primarily due to lack of sufficient infrastructural facilities, lack of initiative for change and competent human resources etc. Application of collaborative learning in engineering education led to many advantages like think creatively, assess the problem thoroughly, problem-solving skill, shifting the emphasis from individual efforts to team work, etc. The perception of collaborative learning is inevitably attached in engineering education. In practice, engineers do not work in isolation. It is inconceivable to think that great engineering projects of high complexity can be created by an engineer in solitude. Accordingly, collaborative learning is most suited in preparing engineering graduates for the challenges that lie ahead in practical world.

Collaborative learning strategies in engineering education
As the name indicates, collaborative learning is a new thoughtful approach of the teaching-learning process, in which students at various performance levels work together in small groups must participate through activities related to course material to acquire not only knowledge but skills rather than only listening. Such techniques are easy to apply and required a short span of time. However, the choice of correct method will depend on the content taught and up to what extent.

As an engineering facilitator, we must understand that students entering into university engineering programmes come from vastly different educational, cultural and personal backgrounds and they will have their own favourite learning styles. Also, we all agree that each brain is unique and every learner learns in their own way through specific learning pattern, also learning is enhanced by challenge whereas inhibited by threat thus as instructor we have to provide positive educational environment and determine a thoughtful mixture of all kinds of teaching-learning styles to present the course material so as to easily understand by learners through active participation, self-learning and able to correlate with real-life problems to achieve lifelong learning. Thus, we have to understand students’ need through conducting the Felder-Silverman Learning Styles inventory test, which is online available to understand the preferred learning style of our students, while starting of new course, to create positive environment and willingness for the concerned course.

In our teaching style, we would focus on preparing carefully the prerequisites required for daily planned theory sessions and how learners fulfilled it and prefer interactive and multifaceted teaching-learning methods so as to
improve learner's active participation along with self-learning skill. Also, try to solve challenging realistic problems (Assignment-Problem Based Learning) so as to enhance their critical and computational thinking and analyzing skills. Final achievement is the learners' autonomy.

Course completion within stipulated time and the proper pace is the moral responsibility of the course instructor. Learner’s motivation always helps to emphasize to hold his or her attention, which becomes the backbone of any teaching-learning process. However, learners may sometimes lose their motivation and interest towards learning because of the following things-

- Reiteration of any single method of teaching would produce monotony about the subject and would wipe out the interest of the students.
- The teacher doesn't have sound technical knowledge of the subject, along with improper time management, poor communication, and presentation skills.
- Create assignments that don’t improve any kind of the students' skills and abilities.
- Learners do not recognize the classroom climate as supportive.
- If the instructor fails to articulate the learning goals with real-life applications.
- If we ignore the learner's feedback or their suggestions for improvement.
- Negative feelings of learners such as low self-confidence, lacking in prerequisite, excessive anxiety, avoiding self-learning, instructor's harsh and discouraging attitude.

Thus we have to prefer interactive instruction method in which learners actively engage in the group task, articulate their own ideas or concepts, responsible for their own as well as other's learning, in a group so as to achieve common academic goal or learning outcomes.

It has been postulated that there are five major elements in collaborative learning, namely:

- Affirmative interdependence of every team member
- Healthy interaction between the groups
- Individual accountability with shared responsibility
- Use of interpersonal skills
- Monitoring and evaluation of progress towards learning outcome

Student Engagement Strategy in collaborating style:

For a minute paper question will be asked to student and they are expected to write answer in 1 to 3 minutes and this will be executed with the help of teaching assistant. Similarly, think-pair-share (TPS) is a collaborative learning strategy where students work together to solve a problem or answer a question about an assigned reading. This strategy requires students to think individually about a topic and share ideas with classmates. Discussing with a partner maximizes participation, focuses attention and engages students in comprehending the reading material. This is an excellent method for promoting critical thinking and articulate communication in the classroom.

The Jigsaw Strategy is an efficient way to learn the course material in a cooperative learning style. The jigsaw process is highly structured, which encourages listening, engagement, and empathy by giving each member of the group an essential part to play in the academic activity. Group members must work together as a team to accomplish a common goal; each person depends on all the others. No student can succeed completely unless everyone works well together as a team. This "cooperation by design" facilitates interaction among all students in the class, leading them to value each other as contributors to their common task, which makes this a unique learning method.

The flipped classroom is demonstrated in terms of active, student-centric, collaborative learning strategies. It can also be considered as reversed classroom method. As a part of out-class activity students has to go through the notes, videos or any other study material prepared and provided by facilitator on concerned topic. Then for in-class activity facilitator must ask real-life related complex problems on the concerned topic given to the students and
students should be able to answer those questions within a stipulated time. Prior proper instructions about flipped classroom activity would be beneficial for facilitator as well as students.

The collaborative classroom is always alive with mutual interaction among learners through shifting the emphasis from individual efforts to group work. Also to promote the success of group members as a team with positive heterogeneous relationships and encourages diversity understanding by encouraging, supporting, or assisting each other to accomplish the task and achieve the common goal, some kind of face to face interaction will become beneficial.

Result and discussion

The concept of collaborative learning is actually a part of active learning refers to an interactive instruction method in which learners actively engage in the group task that has been formed for the specific purpose of achieving set educational goals a common academic goal or learning outcomes. When a facilitator uses collaborative learning, he has more opportunities to play new roles, implement new ideas and take on new responsibilities for actively engaging to the millennial learners to reinforce the crucial course material in their minds through enhancing critical thinking ability and learners autonomy. Such techniques required careful planning with rigorous implementation as well as the longer span of time. However, the monitoring and evaluation part is complex and tedious.

Challenges while conducting collaborative learning in engineering education:

- Choice of correct activity and its preparation for attainment of intended learning outcome
- Monitoring and evaluation part is complex and tedious.
- Maintain class discipline and finished activities in stipulated time are difficult.
- Needs the assistance from another teacher as observer and evaluation especially for large size class strength.
- Active participation of passive learners in activities as Shy/ poor learners not actively participate in such activity.
- The students may not involve themselves in the activities due to many reasons which may include the lack of communication skills, fear of failure, lack of confidence etc.
- Slow thinker or poor reader will lag behind during the activity, which resulted in poor performance of the group.
- If prerequisites are unsatisfactory then smooth conduction of such activity will become the hurdle.
- Most of the engineering faculty are not inclined to such activity based teaching-learning process due to inadequate training.
- Implementing the collaborative learning in actual practice may also lead to strong opposition and resistance on the part of some students. This is particularly the case if groups suffer from discrepancy. Students with better academic and intellectual aptitudes may feel that their progress is impeded due to lack of worthwhile contribution from the weaker team members.

Strategies to overcome these problems are as follows:

Advance thoughtful micro-planning of activity and its rigorous implementation.

- We need to identify some self-study components to encourage learners thinking ability, which also help for completion of course.
- Rubrics-based assessment for clarity and transparency.
- Take help from other instructors for class discipline and time management.
- Prepare carefully the prerequisites required for activity and how learners fulfilled it.

Collaborative learning provides the facilitator with many opportunities to observe students interacting, explaining their reasoning, asking questions and discussing their ideas and concepts. These are far more alternate forms of assessment methods than relying on conventional methods only. Also, through the interactions with students during such collaborative activity, the facilitator gains a better understanding of each student's learning style and how they
perform and an opportunity is created whereby the facilitator may provide extra guidance and counselling for the students, which could help to bring educational reforms.

Conclusion
Collaborative learning has brought revolutionary impetus to the engineering education through promoting positive shared responses to problems, doing the synchronous communication which encourages a supportive environment within which to manage conflict resolution and upgrade higher level thinking, self-management and problem-solving skills. Along with the pedagogical profit, collaborative learning makes teaching-learning process more enjoyable for learners as well as facilitators because everyone has an opening to contribute and to learn. Final achievement of collaborative learning is the learners’ autonomy.

As an engineering facilitator, in future, we would have to shift from teacher centric conventional instruction method to student-centric interactive instruction methods with thoughtful micro-planning of pre-requisites and outcomes with sufficient flexibility and its rigorous implementation by using of small activities for better understanding of the course content through proper interaction. In particular, collaborative learning enhances academic achievement, student attitudes, and student retention. Thus strongly suggest that engineering faculty promote student collaboration in their courses for brain-storming and motivating to the millennial learners for achieving lifelong learning.

Reference
DESIGNING CURRICULUM FOR INCLUSIVE EDUCATION IN
INDIA: ISSUES AND PROSPECTS

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Abstract:
The Indian education scenario has been characterised by a system in which there is mainstream “normal education” for the so-called “normal children” and peripheral “special education” for children for special needs. This system has been based on two distinct fields of education and instruction, one termed as “general education” and the other “special education”. The curricula for both these has been designed and developed differently in order to meet the needs of the specific two categories of students—general and special. However, since educational reforms and policy began in India with the NEP 1968, carried forward through NPE 1986 and POA 1992, it has gradually moved away from the outdated notions of segregated education and towards inclusive education. This has posed tremendous challenges to curriculum design and development since the so-called “special children” are now to be mainstreamed and educated along with the so-called “normal children”. An inclusive education is essentially a curriculum for general education mixed with curriculum for special education in which children with special needs (disabled/challenged students) are provided education and instructions in the midst of the general school system without segregating or isolating them. During last two decades, attention has been increasingly turned to a curriculum design that will foster inclusive education, wherein, on one hand the children with special needs are included into mainstream general schools and on the other hand the “normal students” are provided a setting in which they learn to be sensitive and help in the education and mainstreaming of the special children. In such a scenario a lot depends on the manner in which an inclusive curriculum is designed, developed and implemented. This paper looks into some of the major issues and prospects pertaining to curriculum design and development for achieving inclusive education in the Indian context.

Introduction
The education scene has been traditionally characterised by a system in which there is a mainstream “normal education” for the so-called “normal children” and peripheral “special education” for children for special needs. This system has been based on two distinct fields of education and instruction, one termed as “general education” and the other as “special education”. The curricula for both these segregated systems have been designed and developed differently in order to meet the needs of these two distinct categories of students, viz. general and special. However in the Indian context since educational reforms and policy began with the NEP 1968, then carried forward through NPE 1986 and POA 1992, there has been a gradual movement away from the outdated notions of segregated education and towards inclusive education. But this has posed tremendous challenges to curriculum design and development since the so-called “special children” are now to be mainstreamed and educated along with the so-called “normal children”. This in essence is termed as “Inclusion”.

Defining Inclusive Education
Inclusive education can be defined as ‘the disabled and non-disabled young people learning together in colleges and universities, with appropriate networks of support’ (Bradley & Healey, 2004). According to UNESCO “Inclusive education, means that the school can provide a good education to all pupil irrespective of their varying abilities. All children will be treated with respect and ensured equal opportunities to learn together. Inclusive education is an ongoing process. Teachers must work actively and deliberately to reach its goals”.
Since 1990, particularly after the World Conference on Special Needs Education was held in Salamanca in 1994, and with the adoption of the Salamanca Statement and Framework for Action on Special Needs Education, inclusion as a new and best approach, captured the thinking of the scholars and governments alike. UNESCO has said that 90 percent of children with disabilities in developing countries do not attend school. The reason has been obvious- lack of accessibility. Moreover the curriculum being implemented for the general education field was not
appropriate for the children with special needs. Suddenly, apart from physical access, curriculum had become the major obstacle to educate and mainstream the children with disabilities.

According to Braslavsky (1999) curriculum is a way of organizing and sequencing learning experiences with the aim of achieving specified learning outcomes. It guides what will be learned, and why, and how, this learning is facilitated. The curriculum reflects connections between society, politics and schools/teachers, so the development of inclusive curricula reflects a desire to develop an equitable, non-discriminatory society. The International Bureau of Education (IBE-UNESCO) defines the curriculum as both a political and a technical issue, which is well embedded within the complex interfaces of society, politics and education.

Kugelmas (2004) considers Inclusive Education as that which includes the children with disabilities in the regular classroom that have been designed for children without disabilities. Hence inclusive education entails an education system that accommodates all children regardless of their physical, intellectual, social, emotional, linguistic or other conditions. He believes that for the development of social skills and better social interaction of the students inclusive education is the need of contemporary education system.

Issues and situation in India

Indian educational agencies or legal enactments do not provide any clear formal or official definition of inclusion. The only concern in India is to place students with disabilities along with those students who have no disabilities and who are studying in regular classrooms. The MHRD in its Draft Scheme on Inclusive Education prepared in 2003 has tried to explain Inclusive Education as a system in which all learners, young people with or without disabilities are able to learn together in ordinary school settings. UNICEF’s Report on the status of Disability in India in 2000 has also stated that there are around 30 million children with various disabilities. The NCERT survey in 1998 had pointed out that out of 200 million school children between the ages of 6-14 years, around 20 million were affected with some form of disability and needed special educational support. Studies in India have shown that while the national enrolment average for students without disabilities was over 90 percent, it was hardly 5 percent for the students with disabilities. Given this situation majority of the children with disabilities were found to be outside mainstream education. Even the World Bank Report (2007) had reported that the educational attainment and attendance of the children with disabilities were extremely low and much below the national average for school-going children. It has been reported that the level of illiteracy for children with disabilities in India was much lower (52 percent) than for children without disabilities (35 percent). Hence evidently the situation with regard to the education of the children with disabilities is grim and appears to be a herculean task.

Towards Inclusive Educational System

The conventional Indian educational scenario has been characterised with a segregationist approach to education of the normal and the special children. Over the past 5 decades there has been a clear trend in moving from special needs education to a broader paradigm of inclusive education wherein the children with special needs were first integrated into and later included into the mainstream educational system. In order to achieve this goal of an increasingly inclusive educational policy the National Curriculum Framework for School Education initiated by the NCERT in 2000 had suggested making appropriate modifications in the content, presentation and transaction strategies, preparing teachers and developing learner friendly evaluation procedures for learners with special educational needs and termed this as Inclusive Education. The National Curriculum Framework for School Education (NCFSE) of 2000 had Inclusion as its primary aim. In its own words “Segregation or isolation is good neither for learner with disabilities nor for general learners without disabilities. Societal requirement is that learners with special needs should be educated along with other learners in inclusive schools, which are cost effective and have sound pedagogical practices”. This was further improved in 2006 wherein NCFSE asserted that “For teaching to serve as a means of strengthening our democratic way of life, it must respond to the presence of first generation school-goers, whose retention is imperative owing to the Constitutional amendment that has made elementary
education a fundamental right of every child. Ensuring health, nutrition and an inclusive school environment empowering of children in their learning, across differences of caste, religion, gender, disability, is enjoined upon as by the Constitutional amendment”.

The situation drastically improved after 2009 when the Right to Education or the Right of Children to Free and Compulsory Education Act, 2009 clearly held that no child shall be liable to pay any kind of fee or charges or expenses which may prevent him or her from pursuing and completing the elementary education. This in turn benefitted the persons with disabilities who were already protected under the Equal Opportunities, Protection and Full Participation Act, 1996 but now under RTE 2009 gained the right to pursue free and compulsory elementary education like all other children.

**Purpose of Inclusion**

The proponents of the segregationist approach as against the proponent of inclusive education have been criticising this kind of Inclusion primarily on the ground that it fails to provide education suited to the special needs of the children with disabilities. The advocates of Inclusion on the other hand have highlighted the various merits and purposes of Inclusive Education. These have been spelt out by many scholars and include the following:

- Inclusive Education creates a classroom environment that respects differences and diversity.
- Segregating or stigmatizing any student is violative of his/her fundamental human rights
- Provides access to classrooms, laboratory classes and field work to individuals with a wide range of physical abilities and disabilities.
- Provides a more safer and secure environment for the students with disabilities.
- Use of multiple modes to deliver content including alternate delivery methods, including lecture, discussion, hands-on activities, Internet-based interaction and fieldwork each needs to be made accessible to students with a wide range of abilities, disabilities, interests, and previous experiences.
- Encourages interaction among diversely abled students using methods such as in-class questions and discussion, group work, and Internet-based communications.

**The Prospects of Inclusive Curriculum**

Right from inception when Inclusive Education was mooted as the most appropriate way of providing education to children for their holistic growth and development, development of an Inclusive Curriculum was the great challenge. It needed no big research to conclude that the real challenge lay in the lack of Proper Curriculum with special reference to Inclusive Education. According to UNESCO- “Curriculum is what is learnt and what is taught (content) how it is delivered (teaching-learning methods) how it is assessed (exams for example) and the resources used (i.e.books used to deliver and support teaching and learning)” -UNESCO 2004. Ryan (1997) has correctly stated “Many of the key issues confront us in developing an inclusive curriculum. For disabled students, it is essential that they are assessed in such a way as not to disadvantage them, and equally not give them an advantage over other students”. In the Indian context scholar Ramakrishnan has opined that “It is advisable to examine issues of disability at the design stage of a course (or redesign) and not just when it gets to issues of assessment. He has suggested that the inclusive education institutions when offering inclusive education to the students with disabilities, must ensure that the curriculum is easy for students to follow allowing flexibility in the conduct of the assessment and must be applied consistently across the institution

Rose, Sethuraman and Meo, (2000) have suggested that the universal curriculum design principles can be applied to make the courses/programmes more accessible for people with a wide range of abilities and disabilities, ethnic backgrounds, language skills and learning styles. Various other scholars have made wide-ranging suggestions to achieve an Inclusive Curriculum.

It goes without saying that designing an inclusive curriculum is not just a challenge for the learners and the teachers but holds great potential for transforming the way education is provided in a democratic spirit. The Inclusive
Curriculum is meant to bring about a transformation in the manner in which education is imparted in an inclusive democratic and egalitarian setup of the new millennium. McIntosh (1990) has suggested a phased approach to overcome the challenge of designing an Inclusive Education. According to him Inclusive Curriculum must ensure that:

- All children are entitled to receive, with a suitable peer group.
- A broad, balanced and relevant curriculum.
- It is Preferably provided in a mainstream school
- Appropriate support, advice and resources are allocated
- views of parents and students are considered when making changes.

One of the most crucial aspects of Inclusive Education and Inclusive Curriculum is the use of Assistive Technology in Instructional Design. Using the latest assistive technologies Inclusive Education can be made more open and accessible for the children with special needs. While designing the curriculum, care needs to be taken of the special needs of the disabled students by providing them with various assistive devices, (free or at subsidised rates) which can help them to pursue the educational programmes effortlessly.

**Evaluation for Inclusion**

Assessment and examination policies, practices and procedures should provide disabled students, the same opportunities as their peers in order to demonstrate the achievement of learning outcomes. Institutions should consider implementing procedures for supporting alternative assessment and examination arrangements when and wherever necessary. Assessment is a key shaper of the students’ experience of a course, and it is central to the guidance of the students’ on effective course design and our concern for academic standards. Many of the key issues confront curriculum designers in developing an inclusive curriculum which are highlighted above. For disabled students, it is essential that they are assessed in such a way as not to disadvantage them, and equally not give them an advantage over other students. Thus there is a lot to achieve as regards assessment and evaluation of the students with disabilities which has to be linked to the curriculum design.

**Conclusion**

As Inclusive educators, one has to be careful in the selection of appropriate tools and methods that will allow the students learn efficiently. This has a direct bearing on the design of the curriculum to achieve inclusion in education field. While designing the curriculum for Inclusive Education, care needs to be taken of the special needs and should think about various assistive measures which can help them to pursue further studies with institutional support. Curriculum for inclusion must start with recognising the right of the students with disabilities to learn along with other normal students and not be segregated. The Indian scenario calls for special attention to Inclusive Curriculum due to the complexity and diversity of Indian educational system which largely is a State subject giving rise to many different voices and expressions as to how Inclusive Curriculum is to be designed and Inclusive education is to be carried out.

While the challenges are great and many, the potential and prospects too are many and hence we must be optimistic while also being realistic.

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INNOVATIVE INSTRUCTIONAL STRATEGIES AND ROLE OF THE TEACHER FOR GIFTED STUDENTS IN 21ST CENTURY

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Introduction
Gifted children are those who have significantly high ability than the norm for their age. Giftedness may show in one or more domains such as intellectual, creative, artistic, leadership, or in a specific academic field such as language arts, mathematics or science. These gifted students are very eager for knowledge, they soak up information like sponges. If the curriculum is too easy for them, then such children get bored, sometimes they tune out and underachieve or can become depressed.

“We are altogether too easily deceived by the time-worn argument that the gifted student, ‘the genius’ perhaps, will get along somehow without much teaching. The fact is, the gifted …and the brilliant…are the ones who need the closest attention of the skillful mechanic” - W. Franklin Jones.

The above quotation indicates that in everyday classroom teaching proceeds with taking into account of the normal children but we do not consider the need of gifted children who really need the closest attention of a skillful teacher.

In the National Curriculum Framework (2010), the curriculum pertains to all students; identical and compulsory for all students, except those with difficulties; assesses student performance by numerical mark. But there is no provision for gifted students.

Gifted and talented students and those with high abilities need gifted education programs that will challenge them in regular classroom settings. The teacher can play very important role by using different instructional strategies which make the learning more interesting and leads to incorporating the knowledge more deeply, produce happy well-adjusted human beings who can think, care about others and innovate.

The potentiality of the gifted children is not exploited. Hence, the researcher has decided to use various instructional strategies for the gifted students to perform the above-average aptitude in creative intellectual abilities.

Strategies for gifted students
- Triarchic Approach
- Problem-Based Learning Strategy
- Strategy based on Bloom’s Revised Taxonomy:
  - Tiered Assignments
  - Flexible Grouping

Objectives of the study
To find out the effectiveness of instructional strategies Triarchic Approach, Problem Based Learning, Strategies based on Bloom’s Revised Taxonomy, Tiered Assignments and Flexible Grouping for gifted students of eighth standard eight in science subject.
1.1 To find out the effectiveness of Triarchic Approach for gifted students of standard eighth in the unit of The Structure of a Cell and Micro-organisms.
1.2 To find out the effectiveness of Problem Based Learning strategy for gifted students of standard eighth in the unit of Diseases.
1.3 To find out the effectiveness of Bloom’s Revised Taxonomy strategy for gifted students of standard eighth in the unit of Air.
1.4 To find out the effectiveness of Tiered Assignment strategy for gifted students of standard eighth in the unit of Soil.
1.5 To find out the effectiveness of Flexible Grouping strategy for gifted students of standard eighth in the unit of Animal Husbandry.
2. To explain the role of teacher while implementing the instructional strategies on gifted students.

Assumptions
1. There is no special provision for teaching gifted students in the classroom.  
   (Kurup, A., Basu, A.- “Education Option for Gifted Children”)
2. Each individual has different learning abilities.  
   (Rojers, K. B. – “Do the Gifted Think and Learn Differently?”)
3. Teacher uses same methods, approaches and strategies for all the students in the classroom.  
   (Kurup, A., Basu, A.- “Education Option for Gifted Children”)

Hypothesis
1.1 There is no significant difference between the mean performance scores of students from group ‘E’ and that of group ‘C’ on post test 1 after using Triarchic Approach for the unit of The Structure of Cell and Micro-organisms.
1.2 There is no significant difference between the mean performance scores of students from group ‘E’ and that of group ‘C’ on post test 2 after using Problem Based Learning strategy for the unit of Diseases.
1.3 There is no significant difference between the mean performance scores of students from group ’E’ and that of group ‘C’ on post test 3 after using Bloom’s Revised Taxonomy strategy for the unit of Air.
1.4 There is no significant difference between the mean performance scores of students from group ‘E’ and group ‘C’ on post test 4 after using Tiered Assignments strategy for the unit of Soil.
1.5 There is no significant difference between the mean performance scores of students of group ‘E’ and that of group ‘C’ on post test 5 after using Flexible Grouping strategy for the unit of Animal Husbandry.

Variables in the study
1. Independent Variables Instructional strategies
   a. Triarchic Approach
   b. Problem Based Learning
   c. Bloom’s Revised Taxonomy
   d. Tiered Assignments
   e. Flexible Grouping
2. Dependent Variables Students’ academic achievement in science subject.

Limitations and Delimitations of the study
1. The findings of the study is limited to only implementation of the five instructional strategies i.e. Triarchic Approach, Bloom’s Revised Taxonomy, Problem Based Learning, Tiered Assignments, Flexible Grouping strategy for gifted students.
2. The study was delimited for only gifted students studying at standard eighth in schools present in Solapur city.
3. The study was delimited only to implement the instructional strategies for gifted students studying at standard eighth in science subject.
4. The study was delimited only to develop supporting material for instructional strategies.

Need of the Study
1. To develop instructional material for gifted students.
2. To explain the role of teacher while implementing the instructional strategies for gifted students.

Significance of the Study
1. This study will help the teachers to understand the need of gifted students.
2. This study will help teachers to use the instructional material for gifted students and enhance the academic achievement of gifted students.

Research Design
The present study is experimental study. In the present study researcher has selected the True Experimental research design and Post Test Only experimental design. Sampling procedure used is purposive sampling.

Research Tools
For collecting the data teacher made post tests were implemented on both groups.

Research Procedure
50 gifted students from standard eighth were selected for conducting the experiment, which were equally divided into two groups such as 25 students in Experimental group and 25 in the Control group. On experimental group the instructional strategy program was implemented and the control group was taught by regular classroom method. Teacher made tests were used to collect the data. The obtained data were calculated by using descriptive and inferential statics. By using above tools the data were collected and analysis and interpretation of data is done.

Analysis and Interpretation
Objective wise analysis and interpretation is as below.

Table No. 1
Mean, SDs and ‘t’-value calculated from the post test 1 scores of both group ‘E’ and ‘C’ on unit of The Structure of Cell and Micro-organisms.

<table>
<thead>
<tr>
<th>Group</th>
<th>Sample(N)</th>
<th>Mean (M)</th>
<th>Standard Deviation (SD)</th>
<th>Degrees of Freedom (DF)</th>
<th>t-value at 0.05</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>25</td>
<td>11.04</td>
<td>2.82</td>
<td></td>
<td>5.24</td>
<td>Significant</td>
</tr>
<tr>
<td>C</td>
<td>25</td>
<td>7.24</td>
<td>2.61</td>
<td></td>
<td>2.01</td>
<td>Significant</td>
</tr>
</tbody>
</table>

The calculated ‘t’ value 5.24 is significant at 0.01 level. Hence, the above stated null hypothesis 1.1 was rejected at 0.01 level. Triarchic Approach was found more effective than traditional teaching method.

Role of teacher
Help students to think analytically, creatively and practically by asking higher order thinking questions and providing information of systems related to cell structure and micro-organisms.

The analysis and interpretation of objective 1.2 was done in order to test hypothesis 1.2 by calculating Means and Standard deviations of individual differences of both the groups, ‘t’ test was applied.

Table No. 2
Mean, SDs and ‘t’-value calculated from the post test 2 scores of both group ‘E’ and ‘C’ on unit of Diseases.
### Observation and Interpretation

The calculated ‘t’ value 6.69 is significant at 0.01 level. Hence, the above stated null hypothesis was rejected. Problem based learning strategy found more effective than traditional teaching method.

### Role of Teacher

Help students to think analytically, make decisions and develop action plan to solve problems by involving students in problem solving.

The analysis and interpretation of objective 1.3 was done in order to test hypothesis 1.3 by calculating Means and Standard deviations of individual differences of both the groups, ‘t’ test was applied.

#### Table No. 3

Mean, SDs and ‘t’- value calculated from the post test 3 scores of both group ‘E’ and ‘C’ on unit of Air.

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Sample(N)</th>
<th>Mean (M)</th>
<th>Standard Deviation (SD)</th>
<th>Degrees of Freedom (DF)</th>
<th>t- value at significance level</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>25</td>
<td>7.44</td>
<td>2.26</td>
<td>48</td>
<td>6.69</td>
<td>0.05 0.01 Significant</td>
</tr>
<tr>
<td>C</td>
<td>25</td>
<td>3.52</td>
<td>1.63</td>
<td>48</td>
<td>6.86</td>
<td>2.01 2.68 Significant</td>
</tr>
</tbody>
</table>

### Observation and Interpretation

The calculated ‘t’ value 6.86 is significant at 0.01 level. Hence, the above stated null hypothesis was rejected. The Bloom’s Revised Taxonomy strategy found more effective than traditional method.

### Role of Teacher

Help students to think convergently and divergently by asking higher order questions.
The analysis and interpretation of objective 1.4 was done in order to test hypothesis 1.4 by calculating Means and Standard deviations of individual differences of both the groups, ‘t’ test was applied.

### Table No. 4
Mean, SDs and ‘t’- value calculated from the post test 4 scores of both group ‘E’ and ‘C’ on unit of Soil.

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Sample(N)</th>
<th>Mean (M)</th>
<th>Standard Deviation (SD)</th>
<th>Degrees of Freedom (DF)</th>
<th>t-value at significance level</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>25</td>
<td>10.6</td>
<td>2.19</td>
<td>48</td>
<td>2.95</td>
<td>0.01</td>
</tr>
<tr>
<td>C</td>
<td>25</td>
<td>8.56</td>
<td>2.499</td>
<td>48</td>
<td>2.01</td>
<td>2.68</td>
</tr>
</tbody>
</table>

**Observation and Interpretation**
The calculated ‘t’ value 2.95 is significant at 0.01 level. Hence, the above stated null hypothesis was rejected. The Tiered Assignments strategy found more effective than traditional method.

**Role of teacher**
Help students to think convergently and divergently by asking higher order questions.

The analysis and interpretation of objective 1.5 was done in order to test hypothesis 1.5 by calculating Means and Standard deviations of individual differences of both the groups, ‘t’ test was applied.

### Table No. 5
Mean, SDs and ‘t’- value calculated from the post test 5 scores of both group ‘E’ and ‘C’ on unit of Animal Husbandry.

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Sample(N)</th>
<th>Mean (M)</th>
<th>Standard Deviation (SD)</th>
<th>Degrees of Freedom (DF)</th>
<th>t-value at significance level</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>25</td>
<td>9.72</td>
<td>3.56</td>
<td>48</td>
<td>5.26</td>
<td>0.01</td>
</tr>
<tr>
<td>C</td>
<td>25</td>
<td>5.16</td>
<td>2.01</td>
<td>48</td>
<td>2.01</td>
<td>2.68</td>
</tr>
</tbody>
</table>
Interpretation and conclusion
The calculated ‘t’ value 5.26 is significant at 0.01 level. Hence, the above stated null hypothesis was rejected. The Flexible Grouping strategy found more effective than traditional method.

Role of Teacher
Enhance the adjustment and co-operative ability in students by assigning task in groups.

Conclusions
In this study the instructional strategies used for gifted students such as Triarchic Approach, Problem Based Learning strategy, Strategy based on Revised Bloom’s Taxonomy, Tiered Assignments and Flexible Grouping are found more effective than traditional teaching method. in this study the role of teacher while implementing the strategies is to help students to think analytically, creatively and practically, help students to make decisions and to develop an action plan, to help students to think convergently and divergently, help students in enhancing adjustment and co-operative skills among themselves.

Reference
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www.nsgt.org
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INTERACTIVE ROLE IN PARENTS, TEACHERS AND STUDENTS IN EDUCATION CURRICULUM

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Abstract:
Teacher are creating a distraction between teachers and teacher’s during the changing times, as a consequence of this the teacher and the teaching process appears in the process of education. In this academic curriculum this is important ground of parents, teachers and students and medium prevail. In this case the education component of education is inaccessible chain mole. If you want to power the parents, teacher’s and students in curriculum interaction is coordination is required.

Introduction:
If India wants to take a special look at progress, then it should be capable to create a capable future generation. What kind of education should be given to the future citizen of that country? And let us think about it; is necessary to plan the course.

It is important to think that planning for the curriculum is only necessary from the initiation of social responsibility pre-primary education, primary education, secondary education and university education are different and levels of our education system and education goals. Curriculum, time and other psychic are being set up on the basis of the change, the art forms are being educated the objective of education is changing course, duration and other relevant factor.

Although every level of education is important in all the levels Vishvanath has a very important place in primary education in terms of life and in terms of social development. Accordingly, the students and students are interested in studying interest selecting interests and choice.

After many primary and secondary education, students see many aspects of the life sector. And here students can provide education and curriculum. Parents and teachers and students role is important.

In curriculum course what the role of various medium in the interaction of parents, teachers and students

- Twitter
- Whatsapp group
- By invitation card
- Record books
- By letter
- Mobile call
- Messages
- Email ID

Parents, Teachers, Students Role Of Interaction
The education process is the process of shaping and educating the students, parents education and students are the main centers of interaction, a new mindset will definitely slow down, where as some parents, teacher’s are cautious about progress of the students but they are very subtle. The ideas parents teacher’s and students need to communicate in order to develop the students and courses. Therefore, the effect of students personality development and academic editing will certainly be significant. Increasing educational intercourse between parents, teacher’s and students will result in the development of students as well as help in achieving prosperous citizen and personal personalization will result in the interaction and increase the quality of the student in the same manner. Similarly whereas we understand this there is less help in this and due diligence proper co-ordination...

reserved educational problems of students the right to screen students will develop solution and guidance can be given.

The Role of parents, teacher’s and students in the syllabus

- Development of academic courses
- The education given to the uneducated parents can get good education.
- Parents, teacher’s should know about education.
- Parents, teacher’s both of them get inspiration.
- A habit of practicing interaction with parents properly.
- Help in socialization through school education.
- Through learning intervention will increase in the curriculum.
- Nutritional environment for students developments
- It will help improve the learning curriculum of the students.
- The academic curriculum develops through the interaction of teacher’s, parents.
- The knowledge and skills of community will be possible through study.

Conclusions:
The learning process is the process of educating and educating the students. it will be helpful to create a new curriculum through the interaction of teacher’s, students and therefore the reputation of the teacher on scientific editor/quality.
COMPARATIVE STUDY OF DIFFERENT FILTERS OF RADARSAT-2 USING POL-SAR FOR SPECKLE NOISE REDUCTION

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Abstract:
The microwave Synthetic Aperture Radar (SAR) is a type of active remote sensing. It has its own energy source for illumination. It receives the radiation reflected from the target on the ground surface. It generates a very high resolution imagery of the Earth. It enables observation in all types of weather condition, day and night capabilities. Image filtering is very important field in SAR image processing. Synthetic Aperture Radar (SAR) data are affected by speckle noise. The speckle appearing in SAR image is due to the interference reflected waves. This noise complicates the problem of interaction of the image by reducing the exactitude of information. That is why speckle reducing is necessary before image analysis because speckle filtering of SAR image has a great impact on the accuracy. This paper proposes comparison between Box-car, Gaussian, Lee, Lopez and Lee sigma filter to remove speckle in RADARSAT-2 image. The results of these filters are analyzed and the implication of statistical parameters is compared. It includes Mean, Median, Standard Deviation, Coefficient Variance and Equivalent Number of Looks (ENL). The overall process is applied on microwave radar Quad Pole RADARSAT-2 PolSAR dataset of north of Vancouver, to the flat, agricultural lands of the Fraser River Delta is used.

Keywords: Synthetic Aperture Radar (SAR), Polarimetric SAR (Pol-SAR), speckle noise filters.

Introduction:
The microwave SAR is an active remote sensing system (Jensen, 2014), which acquired very high resolution images of the Earth. It has the capacity to penetrate through clouds, fog, smoke etc. though there is change in environmental changes and capable to sense the object on the Earth during the day or night. In the present study Quad Pole RADARSAT-2 Pol-SAR Vancouver dataset is used. The objective of these works is to reducing Speckle noise SAR image using the Box-car filter, Gaussian, Lee, Lopez and Lee sigma filter & analyzed the filtered images on the basis of statistical parameters. The statistical parameters Viz., Mean, Standard Deviation, Coefficient Variance and ENL. This paper will provide comparative simulation model result of these filters using Pol-SAR-Pro Ver. 5.0 and NEST Ver. 5.0.16 software. The both software’s are freely available on the internet developed by ESA.

Speckle Noise:Speckle noise is generated during the process of creating the SAR image that cause by coherent radiation. This noise causes the degradation of the image quality [4]. SAR images also have statistical property that mostly evolved from multiplicative noise model. This image can be formed as multiplicative noise models as follows: I(t) = R(t).v(t) Where, I(t) is the noise-affected signal, R(t) is original image or the radar backscatter property without noise of ground targets and v(t) is speckle noise and it is independent with R(t). SAR speckle that generated by a zero-mean random phase of echo signals, causes the mean value of v(t) is one, and its variance is relevant with the equivalent number of SAR images. The speckle noise must be eliminated during the pre-processing of SAR images. This technique becomes an essential procedure in most of the target detection and recognition systems. However, it may lead to the loss of image details such as texture information or edges [1].

Polarimetric SAR Data Speckle Filters:
Filtering is a technique to remove unwanted signal/noise from an image. The main objective of speckle filtering is removing noise in the uniform area, preserve texture and enhance the edge without changing features, as well as providing a good visual appearance. The kernel window moves and applies a mathematical calculation and also
substitutes the value of the window central pixel. As a result, the smoothing effect and visual appearance reduced speckle is achieved [1]. The main objective of the present work is to provide a comparative study of Pol-SAR speckle noise filters with the intention to find the strengths of the different approaches. The objective is not to provide the details of every technique, but just the filtering principle on which the filtering is based on. Here used some (3x3) speckle filters:

**Box Filter:**
It is a simple averaging filter that replaces the center pixel in a square kernel by the mean value of kernel pixels. This filter has a good performance in reducing speckle in homogeneous area. Because of dealing similarly with all pixels in a kernel it degrades spatial resolution and also destroys the polarimetric properties [5]. Figure 2(a), (b), (c) shows intensity image obtained using a boxcar filter. This image shows enhanced contrast and lower random aspect. As it can be seen, the boxcar filter is characterized by two main limitations:

- Sharp edges are generally blurred.
- Point scatterers are over filtered and transformed to spread targets [8].

**Gaussian Filter:**
Gaussian filtering is more effective at smoothing images. It is used to blur images and remove noise and detail. In one dimension, the Gaussian function is: \( G(x) = \frac{1}{\sqrt{\pi \sigma^2}} e^{-\frac{x^2}{2\sigma^2}} \). The Gaussian filter is a non-uniform low pass filter. It might not preserve image brightness. When working with images we need to use the two dimensional Gaussian function. \( G(x, y) = \frac{1}{2\pi \sigma^2} e^{-\frac{x^2+y^2}{2\sigma^2}} \). Where, \( \sigma \) is the standard deviation of the distribution. It is a symmetric function. The Standard deviation of the Gaussian function plays an important role in its behavior. The Gaussian function is used in numerous research areas:

- It defines a probability distribution for noise or data.
- It is a smoothing operator.
- It is used in mathematics [6].

Figure 2 (d), (e), (f) shows intensity image obtained using a Gaussian filter.

**Lee Filter:**
The Lee filters compute a linear combination of the center pixel intensity in a filter window with an average intensity of the window for removing speckle noise [1]. Lee filtering is a standard deviation based filter that filters data based on statistics calculated within individual filter windows. Unlike a typical low-pass smoothing filter, the Lee filter and other similar sigma filters preserve image sharpness and detail while suppressing noise. The pixel being filtered is replaced by a value calculated using the surrounding pixels [8].

**Lopez Filter:**
In speckle noise model for the complete covariance matrix in Pol-SAR is proposed. This speckle noise model allows to identifying the noise characteristics for all the covariance matrix elements. The speckle noise characteristics depend on the complex correlation coefficient, causing the speckle noise nature to vary according to it. Two clear noise mechanisms have been identified. The first mechanism has a multiplicative noise mechanism controlled by the real and imaginary parts of the complex correlation coefficient. This mechanism is dominant only when the real or imaginary parts of the complex correlation coefficient are close to one and the second mechanism has an additive nature, being dominant for low-coherence values. As a result, speckle noise for the off-diagonal covariance matrix elements is non-stationary, but also speckle characteristics vary between its real and imaginary parts [2].

**Lee-sigma Filter:**
This filter is based on the sigma probability of a Gaussian distribution. It filters the image noise by averaging only those pixels within the two-sigma range of the center pixel within a scanning window. It is well known that the two sigma probability of Gaussian distribution is 0.955. Pixels outside the two sigma range are ignored, because they
are considered as outliers. Consequently, high contrast features are preserved. However, dark spot noise is not removed from the SAR image. This is due to the small sigma range associated with the dark pixels of the multiplicative noise model and a result no filtering action is taken for such pixels [2].

**STUDY AREA**

The study area is located in dataset of north of Vancouver, to the flat, agricultural lands of the Fraser River Delta with The dataset is quad polarized with HH/HV/VH/VV polarization and date of acquisition is 2008/05/06. RADARSAT-2 Dataset downloads from [https://mdacorporation.com/satellite](https://mdacorporation.com/satellite). The SAR dataset region of the study area is shown in figure 1.

**Figure 1:** radarsat-2 data image of Band-1, Band-2 and Band-3

![Band-1, Band-2, Band-3 images](image1.png)

**Figure 2:** Box-car, Gaussian, Lee, Lopez and Lee sigma filtered images of band-1 for T11, Band-2 for T22 and Band-3 for T33.

![Box-car filtered images](image2.png)
Gaussian filtered images:

(d)  (e)  (f)

Lee filtered images:

(g)  (h)  (i)

Lopez filtered images:

(j)  (k)  (l)
Statistical Parameters

Standard Deviation (SD):
In statistics, the standard deviation (σ) is a measure that is used to quantify the amount of variation or dispersion of a set of data values. A low standard deviation indicates that the data points tend to be close to the mean (also called the expected value) of the set, while a high standard deviation indicates that the data points are spread out over a wider range of values. The standard deviation is commonly used to measure confidence in statistical conclusions.

\[ \sigma = \sqrt{\frac{\sum (x - \mu)^2}{n - 1}} \]

Coefficient of Variation (CV):
This is also called as Standard deviation to mean ratio (SD/M) which is well known quantitative measure for evaluating the level of smoothing in homogenous area. Lower value of CV represents good speckle noise reduction.

\[ CV = \sqrt{Var[\cdot] / E[\cdot]} \]

Mean Square Error (MSE):

Mean Square Error is defined as \( (x, x') = E [(x - x')^2] \) Where and represents original and filtered images respectively, \([\cdot]\) denotes statistical mean. The highest value of MSE represents original and filtered images are dissimilar and lowest value represents better image quality of the filtered image. MSE based measurements are useful to obtain a global performance assessment on the whole image, but usually they yields little information about the preservation of specific features, for which other indexes can be used.

Equivalent Number of Looks (ENL):

The equivalent number of looks (ENL) was applied to measure the degree of suppression, which was defined as the square ratio of the mean to the standard deviation values in a homogeneous region. The larger the ENL was, the
better the quality of the speckle reduction was. The ENL is another good indicator to show speckle noise reduction. The ENL for intensity image is defined as \( (\,) = 1/2 \) and for amplitude image is defined as \( (\,) = (0.522/)^2 \).

**Table:**

The accuracy assessment results of the speckle noise reduction using Box-car, Gaussian, Lee, Lopez and Lee-sigma filter for RADARSAT-2 Pol-SAR dataset of north of Vancouver, agricultural lands of the Fraser River Delta image on the basis of statistical parameter.

<table>
<thead>
<tr>
<th>Filter\statistics</th>
<th>Mean</th>
<th>Median</th>
<th>Std. deviation</th>
<th>C. V.</th>
<th>ENL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box-car</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T11</td>
<td>0.1632</td>
<td>0.0849</td>
<td>0.4063</td>
<td>28.9789</td>
<td>0.0012</td>
</tr>
<tr>
<td>T22</td>
<td>0.1010</td>
<td>0.0007</td>
<td>0.6299</td>
<td>33.7444</td>
<td>0.0009</td>
</tr>
<tr>
<td>T33</td>
<td>0.0192</td>
<td>0.0003</td>
<td>0.1598</td>
<td>92.8347</td>
<td>0.0001</td>
</tr>
<tr>
<td>Gaussian</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T11</td>
<td>0.1649</td>
<td>0.0809</td>
<td>0.3866</td>
<td>27.7406</td>
<td>0.0013</td>
</tr>
<tr>
<td>T22</td>
<td>0.1031</td>
<td>0.0007</td>
<td>0.6009</td>
<td>32.8872</td>
<td>0.0009</td>
</tr>
<tr>
<td>T33</td>
<td>0.0204</td>
<td>0.0004</td>
<td>0.1516</td>
<td>88.4140</td>
<td>0.0001</td>
</tr>
<tr>
<td>Lee</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T11</td>
<td>0.1428</td>
<td>0.1287</td>
<td>0.2637</td>
<td>25.6296</td>
<td>0.0015</td>
</tr>
<tr>
<td>T22</td>
<td>0.0848</td>
<td>0.0004</td>
<td>0.4023</td>
<td>33.4851</td>
<td>0.0009</td>
</tr>
<tr>
<td>T33</td>
<td>0.0215</td>
<td>0.0002</td>
<td>0.0987</td>
<td>74.7969</td>
<td>0.0002</td>
</tr>
<tr>
<td>Lopez</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T11</td>
<td>0.1389</td>
<td>0.0944</td>
<td>0.2318</td>
<td><strong>18.6471</strong></td>
<td><strong>0.0029</strong></td>
</tr>
<tr>
<td>T22</td>
<td>0.1078</td>
<td>0.0647</td>
<td>0.3306</td>
<td>26.4590</td>
<td>0.0014</td>
</tr>
<tr>
<td>T33</td>
<td>0.0306</td>
<td>0.0335</td>
<td>0.0861</td>
<td>47.8731</td>
<td>0.0004</td>
</tr>
<tr>
<td>Lee-sigma</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T11</td>
<td>0.1410</td>
<td>0.0948</td>
<td>0.2298</td>
<td>18.6955</td>
<td><strong>0.0029</strong></td>
</tr>
<tr>
<td>T22</td>
<td>0.1102</td>
<td>0.0650</td>
<td>0.3301</td>
<td>26.3898</td>
<td>0.0014</td>
</tr>
<tr>
<td>T33</td>
<td>0.0314</td>
<td>0.0336</td>
<td><strong>0.0858</strong></td>
<td>47.9039</td>
<td>0.0004</td>
</tr>
</tbody>
</table>

**Figure 4:** Graph for SAR statistical parameter of Box-car, Gaussian, Lee, Lopez and Lee-sigma filter for RADARSAT-2 Pol-SAR dataset of north of Vancouver, to the flat, agricultural land of the Fraser River Delta image.
Conclusion:
In this paper comparison between Box-car, Gaussian, Lee, Lopez and Lee sigma filter to remove speckle in multi-look SAR image dataset of north of Vancouver, to the flat agricultural land the Fraser River Delta image is used. The results of these filters are analyzed and the implicated of statistical parameters it includes Mean, Median, Standard Deviation, Coefficient Variance and Equivalence Number of Looks (ENL) are compared. Evaluated the performance of statistical parameter of these filters, they are computed and provided comparative simulation model results of both filters using Pol-SAR-Pro Ver. 5.0 and NEST Ver. 5.0.16 software. In figure 1 show the Band-1, Band-2 and Band-3 of RADARSAT-2 input data image and figure 2 shows the result of Box-car[(a),(b),(c)], Gaussian[(d),(e),(f)], Lee[(g),(h),(i)], Lopez[(j),(k),(l)] and Lee sigma[(m),(n),(o)] filtered images of Band-1 for T11, Band-2 for T22 and Band-3 for T33. Ideally, mean should be close to unity and standard deviation should be as low as possible, Lower value of CV represents good speckle noise reduction and the higher value for ENL represents good noise reduction technique for a well performing filter. Here using the table
conclude that Mean close to unity (0.1649) of Gaussian filter of T11 (Figure 2(d)), low Std. deviation (0.0858) of Lee-sigma of T33 (Figure(o)), lower Coefficient Variance (18.6471) Lopez filter of T11(Figure 2 (j)) and higher value ENL(0.0029) of Lopez and Lee-sigma of T11(Figure 2 (j)&(m)) image, then conclude that the Lopez & Lee-sigma then Lee filter are better than Gaussian and Box-car filter.

References:

3. RADARSAT-2 Dataset downloads from https://mdacorporation.com/satellite
6. Gaussian Filtering_1up.pdf, University of Auckland, New Zealand, 25/05/2010.
COMBINATION OF SPIRITUALITY AND SCIENCE IN EDUCATION

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Dr.S.V. Joshi (Guide)  
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Abstract:
Today’s period is competitive period. In this period can you stand strongly then accepted spirituality path for right way of life, mental development and own confidence. If shall contribute spirituality and science then students develop mind from spirituality and science develop surrounding. Students mind development can be acknowledge available tools treasure and right method of subject. For example if have students concentration on mind he will be study otherwise lot of time take book in hand can’t does study. Theosophy founder Dr.Annie Besant said for to disadvantages of Modern Education. “Modern Education in India has practically confined itself to the training of mental of intellectual nature and has ignored the unfolding of the spiritual nature”

Key Word : Spirituality, Combination, Valuable, Culture, Gophan, Veda, Upanishade, Society.

Introduction:
Increased in industrialization science 21st period has done anxiety to over all. All over degradation of culture. This effect shown on young generation. Suicide, anxiety, depression, corruption, harm and as like demon focus created cultural duration we will be experience national glad and happiness if shall be cultural wealthy of society and human. Recent period everybody running behind of treasure. Therefore a computation to increased money for without hard work, disobediently, skill and sinfully way.
The Education essential for released and enlighten problems of society. There are important to all over development, psychological development. But unfortunately in our education system gives lot of stress on intellectual and physical development but have not option psychology development without spiritual knowledge. Human mind has been well growth from spirituality and does mind university.
In life but to palace of society gives ethical value as like. For ex Historical development processing of human society are sincerity love and lire These live values created in society welfare also spirituality gives society over all psychological intellectual good faith situation. The spirituality of Santa has given lighting to folk culture. The present period needs to together of valuable culture with young mind or modernity.
This young generation is a valuable wealth of nation. The culture has been stay to growth of young generations consciousness, humanity, sociality and national attachment. Therefore the combination of science and spirituality can be free social slave and cultural personality. The spirituality should be given encourage and power to change theirs situation. Example, Swami Vivekanand, Mahatma Gandhi and Santa Gadge Baba are giving spirituality to society thus, the need of combination of science and spirituality.

Spirituality :
Those science has got knowledge like veda, purane and upnishade and to make a good person man in society are called spirituality.
Spirituality is a matter of the heart culture of immeasurable strength. Fearlessness is the first requisite of spirituality. Cowards can never be moral. In the opinion of Gandhi locomotion instruments hamper man's spiritual progress. There is no limit for man ambition. Once we were satisfied with traveling a few miles an hour, today we want to negotiate hundreds of miles in a hour.

Science :
The Science has a search and proof of event, which is called science.
Science should not have any place for exploitation, violence, corruption, injustice, mistrust, oppression Vinoba said that Gandhi wanted science to redress a right. Science tends to be dry and dull. Our children cannot make use of
what they are taught in this field. A Science is one of the few things in which one has to go in for accuracy of thought and accuracy of handling.

**Workplace Spirituality at the Individual Level:**

- Inner Life
- Meaningful Work
- Sense of Community
- Alignment of Values

**Inner life:**
The inner life dimension of WPS represents awareness of one's own and others spiritual self. This awareness drives efforts towards the fulfillment of spiritual needs.

**Meaningful Work:**
This notion of working for a higher cause propels employees to connect with themselves, others and humanity at large. Such work provides with meaning and purpose in life, given enjoyment and energizes action.

**Sense of Community:**
Humans possess an innate need for belonging which when satisfied, results in positive affective outcomes like satisfaction and joy. Greater the need for belongingness, greater would be the cognitive tendency of the individual to include others in defining the "self" : resulting in cognitive and merging of others with self.

**Alignment of Values:**
This dimension of WPS deals with the connection and identification with the goals, mission, vision and values of the organization. Identification and connection with the mission and the vision of the organization occurs when there is congruence between one's values and the values of organization.

**Workplace Spirituality at a Collective Level:**
At the collective level, these set of values or beliefs influence the way individuals behave in organization by exerting normative pressure to perform in line with the group's values and norms. Organizational climate is found to strongly predict KSI Constant et al. in their experiments about the attitudes affecting KS concluded that organizational beliefs and norms help drive individuals towards KS for social good.

Organization embracing spirituality make provision for universal positive values such as benevolence, integrity, generativity, mutuality, humanism, justice, receptivity, responsibility, respect and trust.

**Need of Combination science and Spirituality:**
Every stage of society have a domination of blind faith and customs. On that rural given enlightenment through education and accepted essential good creeds. Today, everyone tolerate anxiety, depression and psychological disease, on this situation gets us courage, power and cool of mind from spiritual knowledge. Science has given computation and spirituality has given humanity. Today, everywhere shown restlessness and every one minds want insequarity, there are lot of stab harm, kidnapping theifing etc. on this time spirituality education gives ethical security and make quite surrounding. Thus, students has given education of develop mind and psychological power to ahead calamities from primary level. Example most of student has done susied for fail in exam also not stand in competition its basic causes of created loss of mental or mind power. science has made study of human health parts but spirituality does study on human health and mind. On this way, science and spirituality is need of education in recent period.

**Importance of Society approach:**
The root object of spiritual science is preservation of mind. many men has created as like Godesss from spirituality. There are insipidty to society. For example Sant Gadge Baba, Rashtrasant Tukdoji Majaraj, Swami Vivekanand, Ravindra Tagor, Mahatma Gandhi and Shivaji Maharaj are spiritual personality. As like personality needs to makes in society and their thinking All these life come difficult problems but they are catch theme thats reason they are
immortal in society. The main object of spiritual education is making ethical characteristics. Begin in society these are thinking personality makes, it pa important.

**Importance of Students approaches:**

Today's period is competitive period. In this period can you stand strongly then accepted spirituality path for right way of life, mental development and own confidence. If shall contribute spirituality and science then students develop mind from spirituality and science develop surrounding. Students mind development can be acknowledge available tools treasure and right method of subject. For example if have students concentration on mind he will be study otherwise lot of time take book inn hand can't does study. Also example Indian Yoga is a one of the part of spirituality. Including various type does daily of yoga then students physical combine and live healthy thus utterance of increase concentrate.

**Importance of Government approaches**

Indian spirituality is a kind of Gopan. This Gopan stay with 21th science period then will be use of our knowledge right way. Civilian and including them created government members done right way of work. Today Global period has needed combination of science and spirituality for stable psychology and quietness. They are needs on level of primary to university on this reason, very important of combination of science and spirituality this topic for research.

To meet the world crisis the co-ordination of science and spirituality is inevitable. If science and spirituality go hand in hand I am sure that one can create haven on this earth. There is enough in this world for everyone's need but there is not enough in this world for anybody's greed. All is right with the world if there is proper combination of the two. Sustainable development is the need of the hour and the that is possible with the co-ordination of science and spirituality. Science cleans the outer self and spirituality cleans the inner self both of which are essential to keep the world at peace.

**Reference:**

EFFECT OF INSTRUCTIONAL PACKAGE BASED ON 7’E INSTRUCTIONAL MODEL ON KNOWLEDGE CONSTRUCTION AND UNDERSTANDING OF SCIENCE TEACHER TRAINEES

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Abstract:
Informally, the article reviews the work future strategy for skill development in teacher education. In summary they have wrote that change in the shift of paradigm from teacher centered education to student centered education. New concerns of educations as constructive teaching approach, 7’E model by Brunner and incorporation of ICT are now emerging as challenge of incorporation in existing system. To enhance quality of education we have to see the quality and future of teacher education with respect to skill development as core element. The research focuses on changes at curricular and transaction of curricula according to norms of NCF 2005. Many aspects of curriculum transactions are taken in consideration by researcher to get the idea of present scenario of classroom teaching. The researcher is concerning the areas for classroom teaching where the teacher are been train for the further teaching and implementing the curriculum effectively in the class. Researcher has been delimited this topic to the teacher trainees and teacher educators. To understand the required skills which a teacher should posses Data is collected by questioner which focuses on methods followed by teacher to delivered the content, use of ICT, teaching aids, evaluation at B.Ed and D.Ed level. After analyzing the data researcher has concluded some of skills which teacher or teacher educator should acquire according to changed paradigm in education, student centered education system and incorporation of constructivist approach to the education. Researcher recommended that rigorous pre service and in service training of constructivist teaching strategies should be given to the teacher.

INTRODUCTION
Education contributes a lot to society. It can bring drastic changes in direction of thinking and all as it affect person’s whole life. We cannot take it so casually. As it is a process, it changes time to time according to requirement to society. From primitive to modern man, men are always curious to know about the world around. There is always hunch to learn and understand why it is the way it is? Modern man is facing new challenges to know new information, to adapt changing conditions, to grab new knowledge. Education has long history. Each and every education system has its own prescribed curriculum which gives certain direction to teaching-learning process. Teacher, student, society are the components of education connected together by connecting link called curriculum. World is in transition state. People are living with cutthroat competition, confusion and absolutely in dilemma. Therefore the curriculum is important tool to drawn estimated goals of education.
If there is teaching learning process several questions comes in mind of person dealing with process and curriculum development. Teaching and learning depends on each other curriculum can take insights from psychology in understanding the principles related to teacher student behavior. Learning theories are classified as behaviorist, cognitive, phenomenological theories.
Different Psychologists & philosophers develop their own principles about curriculum & its transaction in the classroom.
Curriculums based on cognitive theories are very convenient to develop, evaluate, organized and established. To implement this type of curriculum and to attain the objective proposed in the curriculum teacher need to develop certain skills in them which will help to enhance the quality of education. So to prepare teacher for the future
challenges and changes we need to nurture the teachers and teacher trainees and develop the skills in them. So first we need to understand the required skill and techniques to develop this skills in this new emerging era of teacher education.

**LEARNING SKILL IMPORTANT IN TEACHER EDUCATION**

To be able to adapt the environment teacher must have following skill so that to survive in changing environment and to accept the new teaching techniques so to be constructivist, creative and innovative teacher must acquire following skills

- **Adaptability:** - To survive in the changing situations one must be adaptive. Learning new teaching techniques, acquiring new skills and understanding importance of knowledge based working are some of the aspects of adaptation

- **Communication:** - Regardless of the medium you learnt, subject you teach as a teacher you need to acquire communication skill these skills will include formal informal communication, social media communication, counselling and other lingual skills, teacher need to understand the language of 21st century communication.

- **Engaging skills:** - It is a skill require to run classroom activity in which student can concentrate on the learning and they acquire the required information and prerequisites for knowledge construction. There are many ways of engaging student in knowledge construction process. Teacher can ask questions, define problem by using problematic question or by exposing them to certain surprises which they did not expect in classroom. All these activities helps student to concentrate in classroom to encourage themselves and to participate in activities. After successful engagement of student teacher can move toward next step

- **Elaborating skills:** - This skill elaborates, experiences, ideas together which is going to create a “construct” with the help of their own thoughts, pre experiences previous conceptions and also by using other student thoughts and ideas. Student makes connections to make “construct” and try to apply understanding to own environment and world around them. Now this construct lead the student to further inquire and develop new and deep understanding. But we should not forgot that process of knowledge construction is ongoing diagnostic process and can occur at all points therefore the evaluation of the whole process should be done.

- **Exploring skills:** - Exploring the situation. Teacher can give them space and time for this process therefore at this stage teacher is acting as facilitator and student are directly get involved in the material facilitated by teacher after preliminary instruction teacher can use any group strategies for example discussion, cooperative learning, peer activity etc. Here teacher can allocate them work and encourage student’s inquiry skill to drive the process. At this stage teacher should allow adequate time and space to each student according their learning style, path, needs.

- **Explaining skills:** - In the explore stage students are working in teams, groups, peer group and they use their inquiry skills to explore the situation while doing the activities students are revealing new ideas. Student looks knowledge as treasure and the activities are maps with different clues therefore it is necessary to give time to explain and share all the new, old, combined, confused, amazing experiences thoughts with all other students and teacher and it is possible on the explanation stage.

- **Evaluative skills:** - As we know teacher role is defined as facilitator and student role is construction his own knowledge. And the construct is formed in the student own mind or brain and to check accuracy of the new concept student should learn how to evaluate new construct. As well as teacher should learn how to evaluate student’s mind process without disturbing them here teacher can use rubrics, observation, interview, portfolios, project and problem based learning activities with that teacher can keep record of each student progress on each stage.
• **Extension skills:** - This skill is important for transfer of learning or transfer of one concept to another can occurs. Sometimes interdisciplinary approach can be considered here. The main objective of this step is application of the acquired knowledge to the new context.

• **Practical skills:** - Science teacher must have the hands on skill which gives concrete structure to the abstract knowledge. When the things are done practically it will definitely aid to knowledge construction.

10. **Technical skills:** - this is a era of technology and being a teacher we cannot lag behind only because of lack of knowledge about the teaching techniques and other computer technologies.

11. **Managerial skills:** - to understand and reach to the need and expectation of today’s learner as a teacher we should have managerial skills which include aspects like management of time, resources, activity, essentials, authorities, organisations, team members etc.

**Techniques And Methods To Develop The Skills In Teacher**

This above enlisted skills are required in this new era of the education due to which the quality of education as well as quality of a teacher and its personality will change. It will bring qualitative appraisal in every teacher which ultimately will affect the education system so following are the teaching methods and techniques which can be incorporated by the teacher educator which will bring qualitative change in teacher and teacher educators.

**Constructivist Teaching Methods**

Following are the teaching methods that can be used for biology teaching through constructivist approach.

1. ILPE method
2. Deductive Concept Method
3. Inductive concept method
4. Direct discussion method
5. Exploratory discussion method
6. Reflective discussion method
7. Interactive presentation method
8. Project method
9. Problem based Learning
10. Treasure Hunt

**Learning Environment**

If teacher has constructivist approach in the classroom and if teacher is using different constructivist strategies then we can identify the learning environment by using following markers.

• Constructivist environment enhances thinking and learning in science.
• Contributes the higher grades in science.
• Enhances critical thinking of scientific concept. Contributes to discovery learning also enhances the exchange of information.
• Develops problem solving strategies.
• Constructivist environment empowers classroom practices.
• Creates less tens and anxious learning environment.
• Encourages peer tutoring due to group activities used in classroom, classroom is transformed into several small classes from a large science class.
• It leads to more and better science questions in class.
• This environment encourages student leadership skills.

**Objective**

1. To perform need analysis of the 7E instructional model package
2. To analyze science methodology content at B.Ed level
3. To find out prior knowledge of teacher trainers about science education
4. To define the components of 7E instructional model package
5. To develop 7E instructional model package
3. To implement the 7E instructional model package on science teacher trainees
4. To check the effectiveness of 7E instructional model package
5. To suggest recommendations on the basis of research findings

Hypothesis
1. The 7E instructional model package developed during present research study is helpful to teacher educators and teacher trainers to enhance teaching learning process.
2. The 7E instructional model package developed during present research study is helpful to enhance understanding and achievement of science teacher trainees in science methodology.

Null Hypothesis
There will be no significant difference between the achievement of teacher trainees before and after implementation of 7E instructional model package

Research Methodology
The present research study is mixed method in which experimental method and survey will be used by researcher. In experimental method researcher will use the post test only equivalent group design

Variables
Independent variable :- 7E instructional model package
Dependent variable :- Academic achievement of teacher trainees in B.Ed college.

Sample Design
For the present research study researcher will use only post test research design in which sample will be chosen by randomization

Kolhapur city

B.Ed

Granted B.Ed colleges

Pre test

Post test

C (15)

E (15)

Non granted B.Ed colleges

E (15)
For the present research study researcher will select students for the study and by using simple random method researcher will implement pre test on the group before implementing the program. By keeping a gap of 7 days researcher will implement the program on the experimental group and then post test will get applied on the same group.

For the present research study researcher will select 20 schools by simple random method for the purpose of the survey

**Tools And Techniques**

For the present research study researcher will use questionnaire and achievement test for the data collection.

**Data Analysis**

For the present research study researcher has decided to use ‘t’ test and percentage for data analysis.

**Conclusions**

**Objective No.1**

After implementing the survey following are conclusions drawn by researcher

- The Teachers presently working in schools are not much aware about 7E instructional model
- The teachers presently working in the schools are not able to use 7E instructional model
- The teachers presently working in the schools are interested to know, understand, learn the concept scope meaning and application of 7E instructional model

**Objective No. 2**

The content included in the syllabus of science methodology can be inducted by applying 7E instructional model

- The content reflects constructivist approach
- The syllabus includes detailed study of 7E instructional model

**Objective No. 3**

The teachers and teacher trainers are aware about 5E instructional model

- It is observed that the knowledge about the 7E instructional model was lacking
- It is observed that the respondents are unaware about the activities required at different stages of the model

**Objective No. 7**

The 7E instructional model package developed during present research study is helpful to teacher educators and teacher trainers to enhance teaching learning process.

- The 7E instructional model package developed during present research study is helpful to enhance understanding and achievement of science teacher trainees in science methodology

**Recommendations**

7E instructional model should be used by teacher educators and teacher trainers 7E instructional model should be used by teacher for classroom teaching

Training of constructivist approach and 7E instructional model should be to in service science teachers
ROLE OF TEACHERS IN 21ST CENTURY

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Abstract:
Highly qualified teachers is the most important factor in a child's education.
"This statement is true in all education systems in different periods.
Due to revolutionary changes in information technology in 21st century the world has become a "Global village. So there are drastic changes in education teacher, learning, curriculum, teaching and evaluation. It is essential to accept modern attitude instead of traditional attitude in learning strategies, teaching strategies curriculum strategies and evolution system.

“The destiny of India is being shaped in the four walls of the classroom” it is written in Kothari commission (1964-66). Now education system has been changed to education without classrooms teacher should acquire updated knowledge and skills. Hence the roles of teachers in 21st century are discussed in this theoretical paper.

Key Words: Teacher, 21st Century, Learning, Teaching, Evaluation and Teacher Role etc.

Planner
Lifelong Student
Guide
Effective
Communication Skills
Role of
Teachers
Techno Savvy
in 21st Century
Facilitator
Instructor of various learning strategies
Counselor
Evaluator

1. Planner
There is diversity in education today. The concept of autonomy is important in education. Teacher should plan properly the content and the methods of learning. Teacher has to play role of the guide in using student’s abilities, knowledge and choosing his careers. Teacher has the responsibility to plan various activities for making the student to self learning develop himself, learn independently according to his speed. He should plan for short time target as well as long time target.

2. Guide
Due to globalization so many opportunities in education and jobs are developed. There will be more addition in future. There is increase in the number of students also. Parents are imposing their expectation on their children. The teacher has to responsibility to assist the students to select courses, of study appropriate to their needs and interests achieve academic excellence to the best possible. Extent derive maximum benefits of resources and
facilities inculcate proper study habits. Teacher should guide students to manage his own life's activities develop his own points of view make his own decisions and carry his own ways teacher has to play the role of a guide properly in 21st century.

3. Global Teacher
Now teacher is a limited to one institute ,one school, one place (Village/ town) ,one class limited group of students ,communication to limited people same content and same teaching methods. But in 21st century teacher must go beyond these limits. Teacher is changing according to some extent but he has to take efforts for becoming a global teacher. Increasing number of students, increasing in various new courses, diversity in classroom, increasing student expectations, flexibility in time, innovations in evolution, is going student has to become capable to time in globalization. So teacher has to play the role of global teacher. He should develop his students for global citizenship.

4. Curriculum / Course Designer / Developer
Teacher has to play the major role in autonomy in education. Autonomy is essential in education field also. Autonomy of the teacher autonomy of the student's autonomy of the administrators is essential for achieving the goals of education. Local needs, local situation , available local resources and facilities should be taken into consideration in curriculum designing . Future policies should be decided for implementing and evaluating the designed courses these courses should be updated time to time.

5. Techno Savvy
Today is an age of information communication technology there is ‘exploration of information.’ The whole world is connected through internet. The speed of knowledge formation is increased it will be increased again. Hence the new concepts such as ‘computer literacy’ is used of technology or developed. The groups are being developed according to their liking fields. Hence the present or future students are the users of the social media. They are using many technological systems very easily that’s why traditional concepts like learning, teaching, evolution as well as schooling system are becoming outdated. So teacher should be able to use various new technologies, develops learning methods, update these learning material, tutoring with confidence it is essential to be fit in the knowledge society. Teacher should not only downloaded the learning material but also upload the learning material.

6. Instructor of Various Learning Strategies
There is a large number of learning sources such as learning material audio, video, text, graphics pictures. Student gets confused in selecting proper source. He cannot decide what to read? which source is proper and reliable. Here he needs motivation, proper guidance for selecting character learning material and experiences it's necessary. It is because of individual differences every child has his own learning style teacher has to instruct in this regard. Teachers should use various work strategy. Students should be made acquainted with the curriculum, learning material, study techniques, evaluation techniques etc.

7. Evaluator
In 21st century teacher has the special role of evaluator. While accepting new system of evaluation one should think about the output of that new system. Teacher should first consider the changes in evaluation tools he should be clear about what to measure in evaluation. Online examinations are also introduced in evaluation, e-portfolio, continuous comprehensive evaluation as well as summative and formative evaluation part of a CCE. In evaluation students abilities skills and behavior should be considered. Evaluation should not be done for awarding degree students getting through the evolution process must fulfill the needs of the society so the teacher in twenty first century should evaluate according criterion referenced evaluation it should be at analysis synthesis and creative level .

8. Counsellor
Student gets confused in selecting in the courses of the study. Parents are imposing their own expectation on their children. Children get frustrated. Student to go through the tension in examination. A student has no choice to select his course of study, his career according to his interests, skills, abilities. It causes unsuccessful in his development. There are many job opportunities but student does not take proper decision. Here is the need of assistance. This can done by the counselor. Counseling can be done face to face, through phone, online chatting or video conferencing also. Teacher has to acquire various skills of counselors and play the counselor role it is the need of the 21st century.

9. Facilitator
Giving information that teacher know, in the classroom is outdated. For causing learning and making learning easier. Teacher should provide facilities for students create learning environment, provide such facilities which will be helpful for students in knowledge formation themselves.

Now constructivist approach is accepted. Hence facilitator role of the teacher has become challenging. Teacher has the responsibility to complete fulfill this responsibility learning environment should be safe for students.

10. Effective Communication Skills
Effective communication is important in modern age. Oral and written communication must be effective. The knowledge and skills of the teacher can be transferred through effective communication.

11. Life Long Student
It was said “Teacher is a lifelong learner.” Knowledge skills are changing day by day. New teaching learning strategies are developed. Teacher should be familiar with these new strategies and techniques. He should innovate the teaching learning process.

Conclusion
Teacher is playing an important role in education from long period. Teacher is called ‘Nation Builder’. The science of teaching requires content knowledge, organization, management skills, and detailed planning. The art of teaching is not about possessing an outgoing personality, but making connections to students, parents, as well as connecting the curriculum to the real world in a relevant manner. Thus the 21st Century teacher creates and maintains intentional relationships with her students, parents, and colleagues for the sake of tomorrow’s success. This is not an easy task, but when the teacher understands how her role in the process has changed, it does make the process much easier. Success of students is the ultimate goal of education; however we have to remember what makes that success possible, an effective teacher. Hence he should develop himself by updating his knowledge and skills and must be innovative in playing his various roles.

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CURRENT STATUS OF SUPERSTITION IN HIGHER EDUCATION

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Abstract:

Today we are living in the 21st century. But we still fail to destroy the superstition. The Indian man is basically divisive. God is his constant understanding. If an accident occurs, then he pushes the fate, but he does not treat it. After such a spread of Science, people are not ready to change their mind or accept new changes. Accepting modern amendments and comforts aside and sticking superstition on one side. Therefore, even after the extra ordinary progress of the science, the superstition of the society is not able to escape. Students are not completely withdrawn from superstition by taking higher education. He was worshipping as a miracle of the natural phenomena of the first man. Plague cholera etc. Goddess like pandemic is worshiped as a local remnant still in society. There are still many natural phenomena that men do not know whose classical causality. But does a highly educated person want to do such a thing as a miracle as a primitive man. Trying to understand the being the clock under the classical criteria. That such incident does not happen it is possible to accept the irreverent role of the retrograde and to be such a thing that even after getting higher education they also suffer from superstition. It is the time we need to settle with your discretion

Introduction:

Scientific Knowledge is the only true Knowledge. Many scientists discovered natural law and made technology, so a person’s progress made life safe and comfortable. Technology have challenged but challenged by the common man’s scientific approach, science has not reached it. Government machinery and educational institutions have failed to reach true Science to ceased in the masses. As a result, the spread of ignorance is seen everywhere and at the same time. To provide scientific approach to Indian Constitution and to increase intelligence it is given as the May duty of an Indian Citizen. If dare to ask this question why should I dare to ask myself first and the others will be able to solve this problem quick. But due to lack of courage to ask this question, the number of superstition increased in society. Due to the human emotions, many times, superstition educationists have not tried to solve even the futility of their learning. Various customs practices are performed to get a mental solution. On the there should of 21st Century, people who are possessed by superstitions can also see us. To their shoddy of The students are spreading the field of superstition. Students are also seen becoming victims of superstition by taking higher education in 21 century of India.

Current Status of Superstition in Higher Education:

1. Less importance to education.
2. Religious rituals are of great importance.
3. Engage in god religions, pilgrimage.
4. Do Wonders.
5. Instead of medical treatment, emphasis on religious treatment.
6. To believe in architecture.
7. Determine behavioral works according to Astrology.
8. Believe in the wonders of the wonderful phenomena and the way they behave accordingly.

Most of the highly educated students still believe in superstition. They believe that they are auspicious and are too fond of going to astrology and looking forward to the future. If there are any problems or problems, then he/she can go to babe and do the same. Some people feel that there is in human According to the horoscope in the newspaper, they work all day long as they look at the future, working throughout the day work like o one time fasting every week. If God takes a vow, then think that think that a tragedy can happen strongest if threads are built around neck
of hand. Tasting at the time of excellence and doing a good job, you can see them otherwise they think that the consequences would be bad behind a tragic event of a bad event. From this, it seems that the students also have sophisticated thinking in promoting superstition by promoting superstition. Superstition among highly educated students a very serious educational problem.

**What Do The Highly Educated Students Do to Eradicate Superstition?**

- Build self confidence.
- Have a display of your intellectual intelligence.
- There are many customs traditions in society that you are chasing yourself. Man should always show faith but not superstitious.
- If your mind is clear and you to try it, then no time for you will be auspicious time believe it.
- Keep science in Front of Scientific Perspective.
- Go to the root of superstition and understand the classical caused behind it
- Everybody Should take the role of a worker and stand against superstition.
- Know what superstitions in by itself & get it done
- Get to know about various social welfare activities
- Get to know about anti superstition laws
- Everyone should try to remove the errors created by superstition & remove them
- Understand that it is wrong to go for superstations the suppression
- Everyone should strengthen the thinking by examining old facts & discovering news
- Those who encourage them, who promote them, accept the scientists vision in view of the seriousness of the results.

Our society is educated but it is not yet able to recognize the boundaries between faith and superstition’s Go to the root of every superstition region behind it. Then the society spreading this superstition will not be able to live. A highly educated student should stand against superstition. And only then our society will come out of the darkness of superstition and progress. Trying to divide society on the basis of caste, religion, language, superstitions a curse for the society and it is necessary for the highly educated students to get the science out of curb.

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AN ENTREPRENEURSHIP DEVELOPMENT SHOULD BE A PART OF CURRICULUM FOR ALL THE FACULTIES: A STUDY

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Abstract:
Syllabus framing is a continuous work. In India in present scenario, in the sector of Higher education, the syllabus is framed by the State University. The affiliated colleges need to just implement the syllabus prescribed by the University. After 1991 India accepted the policy of LPG as the part of economic reform. After having passed more than 25 years of the implementation of this policy the life style of the people has drastically changed. Changes in the communication patterns, transportation, learning methods, family affairs, farming, eating, defending, every little thing of within the lives of masses has changed. The pace of change is extremely fast. And it is vindictive fact that the existing educational system cannot absorb these changes in the syllabus as fast as possible. This causes the output of educational system most probably, remains outdated. This causes cry out from industry that the students passing out from universities are less skilled and useless to perform the required jobs.

This research paper is a humble attempt to answer above mentioned dilemma. The researchers have tried to undergo series of planned experimenting actions. These experimenting actions have helped to train the students of Night College to face the changing environmental factors. These students have turned into successful entrepreneurs at end of their degree course. Thus it may be any stream of education creating the entrepreneurs in the society should be the visionary aim and objective of the entire curriculum development process.

Keywords: Training to Night College students, Entrepreneurship Training, Curriculum design, Mentoring system, Syllabus framing etc.

Introduction:
The educational system is expected to work in harmony to train the next generation. The education system therefore needs to be vigilant and procedural. It should be capable to cater the needs of upcoming future. The educationalist including professors, teachers, and administrative officers of the educational institutions as well as the leaders of the educational institution should have collective ambitions i.e. to create good personalities for sustenance of next generation. Considering today's scenario these above said stakeholders are expected to work for a common goal. They should think twice before taking any action to upgrade the educational system. These stakeholders should establish a proper vision. This vision should be commonly accepted by all, for everybody's interest involved into it. The tenet behind the educational system is to “serve” and not to make commercial business.

The curricula design stands as the backbone of the entire education process. And good quality, result oriented research work becomes a foundational basis for the process of curriculum designing. Thus, ultimately, good research work becomes an indispensable need for curriculum design. Apart from this the vision of Shivaji University should be reflecting in curriculum of all the faculties. After having gone through the degree programme the student should be capable to think individually, independently. They should be imbued with the capacity to accept the challenges as opportunities and not as the hurdles.

Significance of the Study:
The Privatization has become the buzz world of new economic reform policy accepted in 1991. The role of government is getting reduced in almost all spheres of the economic activities. The physical facilities and amenities are provided by the private players. Starting from roads, communication, insurance, banking, defense, education, etc. Almost all the economic activities are handled by the private entrepreneurs. The thought process of the
entrepreneur is different than that of a government employee. It is clear understanding that the human resource which will receive training in the universities and affiliated colleges will definitely assist these private organizations. Or otherwise this human resource should come up with new business ideas and establish their own business enterprise. The job opportunities in the government sector will get reduced as there is increase in privatization of many services.

This entire situation has caused a need to train the entrepreneurial qualities to the students. The student may be from any stream but he/she should be trained to absorb entrepreneurial qualities. They should be trained to think like an entrepreneur. The students should be capable to accept the challenges in life as the opportunities. They should be capable to face the challenging situations in uncertain business environment. The students should be capable to exhibit high moral qualities and good attitude even in the extreme adverse conditions of the life. The ultimate aim of syllabus framing should be aimed to develop the entire personality of the student as very capable person in terms of knowledge, skills and values.

Scope of study:

1. This research paper is the outcome of the experiments held in Nemgonda Dada Patil Night College, Sangli.
2. From the Academic Year 2013-14 upto 2015-16 the researcher experimented to teach the students of night college the entrepreneurial qualities and develop their business and startups.
3. The study is limited to the experiments made with the students of Nemgonda Dada Patil Night College of Arts and Commerce, Sangli for three consecutive academic year.

Objective:

To Study the results of experiments of entrepreneurial development programme implemented at Nemgonda Dada Patil Night College, Sangli.

To develop curriculum for implementing entrepreneurship development programme for all faculty students.

Hypothesis:

Entrepreneurship development is the part of curriculum for undergraduate students.

Research Methodology:

Experiments made in the Nemgonda Dada Patil Night College Night College, Sangli.

1. The students of the night college are generally working students. They are responsible for their family livelihood. They are in many instances perform a key role in earning bread and butter for their family. They need to arrange finances at their own for their education. They come from deprived class of the society. In some cases it was found that the students have different skills. Like some students know masonry work, brickwork, agricultural, electrification. These students found to be very sincere and dedicated but emotionally immature.
2. The researcher in the year 2013-14 started experimenting with these students. The experiment was on the basis of mentoring and counseling the students. Understanding the skill gaps and providing them with different skill sets.
3. The aim of entire programme was to encourage the undergraduate students of Night College to adopt entrepreneurial practices and to start a small business of their own.
4. In the year 2013 – 14 first level of experiment was started. The researcher started developing very warm friendly relationships with the students of Night College. For the purpose the researcher accepted the role of NSS coordinator in the college. The role of NSS coordinator remained helpful to have more interactions with the students apart from class room teaching. The admission to NSS was on the basis of interviews.
5. The subjects like, Principles of management, Insurance, Marketing etc. were taught with the method of experiential learning basis while performing different NSS activities. Purposefully, the researcher taught these subjects of commerce stream to Art faculty students along with commerce faculty students.
6. At the end of academic year 2013 – 14 out of one hundred volunteers of NSS only 10 volunteers were selected for next level of training. The selection was on the basis of their desire to work, to start a new business. At this level the researcher gave choice to these students either they should start preparing for competitive exam or start studying to develop themselves as businessmen. Despite of having different allurements those students who were ready to undergo training as business men were only two.

7. In the next academic year i.e. 2014 – 15 the training started with these two students. Also the new batch next for NSS volunteers was admitted. In this year another three students were chosen for entrepreneurship.

8. In the academic year 2014 – 15 these five students were given special attention. Continuous mentoring, counseling was given throughout the year. Minimum one hundred hours were spent on each student. One to one counseling was main method of training. The students were taught subjects like Management, Marketing management, Investment Management with deeper understanding. The students were asked to read the biographies of different business tycoons. These students were also given opportunity to attend the meetings with the Mumbai based business persons. They were also given opportunity to have detailed dialogues with Mr. Mahendra Garudia. Mr. Garudia is Mumbai based Entrepreneurship Trainer, a hard core researcher, ICWAI consultant and excellent speaker on Chanakya Business Sutra’s . These students were also given the opportunity to participate in the Skill Development workshops and seminars at Shivaji University level . In these conferences the students got the opportunity to interact with scholarly professors of the university. They took the advantage of such opportunity. These students were given special opportunity to participate in spiritual activities in the beautiful campus of Kaneri Math and in the temples of ISKCON. The students, on voluntary basis participated in Mantra meditation, Yoga practices. They also engaged in the philosophical discussions. The students reported, after these activities, that they feel very stress-free disposition within.

After having gone through many encouraging discussions, meetings, seating’s, motivational speeches, discussions on moral values , discussions with moral values now it was time to start the own business model.

9. In the month of May 2015 and onwards five students started businesses in five areas. One student started trading business of cashew. One student started business of networking, and installation of surveillance systems. Another one started own business of steel fabrication. One another started business of wedding decorations. and the last student in this year starting the business of marketing of coolers.

10. Since the beginning only, all the business transactions were performed with help of bank account. Hence, at the time of demonetization there wasn’t any problem occurred. Rather all the businesses reported growth in number as well as volume of transactions. The students are instructed to maintain books of accounts on regular basis. As well as fill the income tax return on regular basis.

Findings and Conclusions:

It was found that only classroom teaching through lecture method is not sufficient to teach and entrepreneurial skills among the student. In all programs, which are delivered under the jurisdiction of Shivaji University the subject of Fundamentals Entrepreneurship is allocated to B.Com part II

Rather, Entrepreneurship Development should be aim of all the programmes and degrees issued by the University. This is the only way to take the advantage of opportunities generated by the privatization. In this regard more research is expected about development of good curriculum.

Suggestions:
Suggested Model for implementation of Entrepreneurship Development Programme.

<table>
<thead>
<tr>
<th>Values</th>
<th>Deep sense of responsibility, patience, tolerance incomparable, mature humility, Enthusiasticall visionary service attitude, y happy to accept the challenges</th>
<th>The trainer should know philosophical understanding of these values. And the trainer should definitely know how to imbibe these values among the students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills</td>
<td>Communication in sweet d very attractive words, ability to harmonize the relationships, managerial skills, marketing skills and other required skills related to the business.</td>
<td>The trainer should be capable to provide these skills with the help of experiential learning.</td>
</tr>
<tr>
<td>Knowledge</td>
<td>Deep sense of knowledge of various subjects Management like, t, marketing, investment accountings management, , business environment, technical aspects of the business.</td>
<td>Class room teachings, lecture method s, seminars, workshops, readings of biographies of very stalwart and great personalites. Reading of research papers, scholarly articles, reference books of various subjects .</td>
</tr>
</tbody>
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Reference
THE EFFECTIVE USE OF ICT FOR TEACHING- LEARNING PROCESS

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Abstract:
Today’s students are fundamentally different than those of even a decade ago. The students we see in the classroom today are digital natives; they have grown up with technology around them rather than being forced to learn the technology later in life. Children raised on a diet of new technologies are less willing to fill out worksheets and listen to lectures patiently. Not only are today’s students quite different than those of the recent past, the world in which they operate has been radically transformed over the past several decades. The economy of the 19th century and early 20th century was based largely on the industrial factory system. Education was modeled on that system with students moved through the factory, in lockstep, as vessels to be filled or objects to be completed.

Based on various changing needs of our society now emphasis is also given to the various educational theory and educational practices. According to these theories and practices changes are also undergo in teacher education also. It is natural that teacher education must include new technology. Teachers should also know the right attitudes and values, besides being proficient in skills related to teaching. As we know the minimum requirement of any training programme is that it should help the trainee to acquire the basic skills and competencies of a good teacher. Now-a-days new trends in teacher education are Inter-disciplinary Approach, Correspondence courses, orientation courses etc. Simulated Teaching, Micro Teaching, Programmed Instruction, Team Teaching are also used in teacher education. Now-a-day Action Research also implemented in Teacher Education. ICT acts as the gateway to the world of information and helps teachers to be updated. It creates awareness of innovative trends in instructional methodologies, evaluation mechanism etc. for professional development

Keywords: ICT, technology, pre-service, in-service, student teacher, teacher training.

Introduction:
Today’s age of 21st Century and it is also the age of information and technology (IT). Every aspects of life are related to science and technology. Huge flow of information is emerging in all fields throughout the world. Now information and technology is popularly using in educational field for making teaching learning process successful and interesting for students and teacher both. In 1998, UNESCO World Education report refers about student and teachers must have sufficient access to improve digital technology and the internet in their classroom, schools, teacher educational institutions. Teachers must have the knowledge and skills to use new digital tools to help all students achieve high academic standard. The quality of professional development of teacher education depends on the extent of ICT integration in teacher education programme. According to UNESCO (2002) “ICT is a scientific, technological and engineering discipline and management technique used in handling information, its application and association with social, economic and cultural matters”.

Teachers are at the core of any living society. Technologies play an important role in training programme of teachers. Students’” accesses knowledge and information through TV, digital media, cable network, internet and social media i. e. Facebook, Twitter, Whatsapp, Linkedinn, Igo, Line, Webchat etc. ICT is very important for Pre-service teacher education programme in the 21st Century. Without proper knowledge of ICT teacher cannot perform in his/her class room and it could not be said to be a complete one.

Why do we use ICT in teacher Education?
The classroom is now changing its look from the traditional one i. e. from one way to two way communication. Now teachers as well as students participate in classroom discussion. Now Education is based on child centric education. So the teacher should prepare to cope up with different technology for using them in the classroom for making teaching learning interested. For effective implementation of certain student-centric methodologies such as project-based learning which puts the students in the role of active researches and technology becomes the appropriate tool. ICT has enabled better and swifter communication; presentation of ideas more effective and
relevant way. It is an effective tool for information acquiring—thus students are encouraged to look for information from multiple sources and they are now more informed than before. So for this reason ICT is very much necessary for Teacher Education

The face of classroom is changing. The teacher should prepare to keep up with technology utility in the classroom. ICT is not only an essential tool for teachers in their day to day work, but it also offers them opportunities for their own professional development. In conventional teaching, most of the time consumed for input-output and less time left for process. But in teaching with ICT the input and output time is reduced and process time increased when, the process discussion, correlation with other subjects we do teaching with ICT, we get more time for the process phase.

**Different Strategies for applying ICT in Teacher Education:**

ICT provides many opportunities to move easily and use variety of pedagogies. It enables delivery of information or communication with a mass of students in quite individual ways, opens up the possibility of tailoring pedagogy to the need of teachers or students in time and place without the limitations, imposed by peer groups Multiple use of technology are interesting and innovative uses of technology take place in classrooms. Teaching can only be effective when the standards, objectives, curriculum, resources, technology use and assessment are aligned to measure objectives. ICT enables instructional designs to follow constructivist approach by using hypertext and hypermedia because it allows for branched design rather than a linear format of instruction.

- Providing adequate infrastructure and technical support.
- Applying ICT in all subjects.
- Applying new Pre-service teacher Education curriculum.

iv) By using application software, using multimedia, Internet e-mail, communities, understanding system software. Access to information is considered to one of the most important benefits of use of ICT in education. ICT allow us to represent information in rich and diverse ways. They enable us to traverse the boundaries of art, science, language. The interactive capacity of ICT provides more opportunities for students and teachers to be involved as creators. It helps in teaching learning resources to meet the particular needs of students of every stage of their education. Learning materials in electronic format are most useful when they are directly linked to the curriculum.

In the light of the need for the improvement of the present Teacher Education Programms in our country, here are strategies for improving and strengthening Teacher Education Programms for preparing Education for the Future Society. Every day new technologies emerge but the latest technologies also have capacity to integrate with older analog-technologies and retrieve information stored in older technologies and to develop link between the old and the new. The choice of technology is important for a specific purpose of classroom teaching.

**Role of ICT in 21st Century Teacher Education:**

1. ICT helps teachers in both pre-service and in-Service teachers training.
   - ICT helps teachers to interact with students.
   - It helps them in preparation their teaching, provide feedback.
   - ICT also helps teachers to access with institutions and Universities, NCERT, NAAC NCTE and UGC etc.
   - It also helps in effective use of ICT software and hardware for teaching –learning process.
   - It helps in improve Teaching skill, helps in innovative Teaching.
   - It helps in effectiveness of classroom.
   - It also helps in improving professional Development and Educational management as well as enhances Active Learning of teacher Trainees.
   - It is now replacing the ancient technology. As we know now-a day’s students are always have competitive mind. So teacher must have the knowledge of the subject. This can be done through ICT.
• ICT helps teachers in preparation for teaching. In order to introduce ICT in pre-service teacher education different methods and strategies are applied. Different tools are used such as word processing, Database, Spreadsheet etc. Various technology based plans are used to help the teachers for their practice teaching.

11. ICT prepares teacher for the use of their skills in the real classroom situation and also make students for their future occupation and social life.

• ICT used as an „assisting tool” for example while making assignments, communicating, collecting data & documentation, and conducting research. Typically, ICT is used independently from the subject matter.

• ICT as a medium for teaching and learning. It is a tool for teaching and learning itself, the medium through which teachers can teach and learners can learn. It appears in many different forms, such as drill and practice exercises, in simulations and educational networks.

• ICT as a popular tool for organisation and management in Institutions.

Teachers must provide technological support to learn using motion picture, animation, simulation training which helped student teachers to give model presentation. If the teacher is highly equipped with technology, the student will also be equipped with technology.

1. It removes the traditional method of teaching and prepare teacher to apply modern method of teaching.
2. ICT is plays an important role in student evaluation.
3. ICT is store house of educational institution because all educational information can safely store through ICT.
4. ICT helps Teacher to communicate properly with their students. So ICT bridge the gap between teacher and students.

• ICT helps Teacher to pass information to students within a very little time.

• ICT helps Teacher to design educational environment.

Conclusion:-
Teaching occupies an honorable position in the society. ICT helps the teacher to update the new knowledge, skills to use the new digital tools and resources. By using and acquire the knowledge of ICT, student teacher will become effective teachers. ICT is one of the major factors for producing the rapid changes in our society. It can change the nature of education and roles of students and teacher in teaching learning process.

Teachers in India now started using technology in the class room. Laptops, LCD projector, Desktop, EDUCOM, Smart classes, Memory sticks are becoming the common media for teacher education institutions.

So we should use information & communication Technology in Teacher Education in 21st Century as because now teachers only can create a bright future for students.

References:
IOT IN PRIMARY EDUCATION

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Abstract:
Primary Education is one of necessary and basic thing in everyone’s life. In this Internet era, almost all people use computers or Smartphone. By using this modern and changing world of electronics and telecommunication industry in education, we enhance the performance of primary education. Internet of Things (IoT) is a new technology which uses various methods and modern technologies for improvement in the performance and gains higher accuracy. IoT is useful for Student for learning, teacher’s uses for various modern teaching methods, Administrator for their day to day working, Parents for observing academic performance and Government uses for controlling education activities.

Keywords: - Primary Education, Smartphone, Internet of Things

Introduction:
In last few decades, the revolution in digital technology was tremendously advanced. We are living in a modern digital era where most of the objects used by person become smart. Also, our government goes towards “Digital India”. Recently most profound technology which connects most of the digital devices with each other with the help of internet known as Internet of Things (IoT) [1] [2].

IoT means people connected with people, things, and vice versa. It is used for storing, communicating and analyzing information. In short, we may say that in this digital era anything that can be connected will be connected [3].

IoT is automated technology which can access all information through the internet and smart devices. IoT has focused on three important points as

- Communication:-Fast transfer information between people and system.
- Control & Atomization:-people and system will able to control remotely and automatically analyze the data.
- Cost Saving:-Use of IoT achieves cost saving. [4]

A recent study shows that Indians are using smart devices nearly 3 hours per day [5]. So why we cannot use such revolutionary device in some good sectors? IoT has impact on various aspects of human life with new way of thinking, living, and working. Currently, IoT is used in lots of sectors such as healthcare, environment control, marketing, customer service etc. The education sector is not an exception.

Primary education is one of basic need of human. According to Right to Education, every child must be in school. Students overall development is based on his primary education. If students in primary education are able to understand logical thinking, judgment and decision-making power, good study habits, self-learning, computer skills, etc. then he will definitely success in his future life. According to Swami Vivekanand nation will advance if proper education and intelligence are given to student in early age. Acquiring knowledge and skill is motto of education.

For proper education achievement of the student, it is necessary to transfer teaching content to the student. It will achieve 4 P’s i.e. progress, prosperity, peace, and pleasure. According to UNESCO’s report on education for a 21st century, for improvement of quality education, four pillars of knowledge’s are required. These are [6]

- Learning to Know-useful for understanding
- Learning to do -useful for interaction with surrounding
- Learning with other -useful for co-operation with other humans
In this digital era, learning activity must be faster as well as overall development of student must be faster. For this purpose different method and techniques must be adopted in integrated fashion. Traditional educational methods have fulfilled these need of student in this digital era. So there is need to acquire new techniques which will fulfill students need.

IoT is one of the best solution for this problem. If we use such smart technology in education sector naturally our education system become smarter and it will be ideal in the world. It can remove obstacles like location of the school, local language, financial status etc. of student and teachers. Students, administrator, teacher, government and parent bring more closely using IoT. Due to IoT, they can easily communicate each other or transfer data easily which make education activity more precise and transparent. IoT brings smart and healthy environment in educational field and also introduce new methodology for smooth learning activity in the classroom. IoT increase impact and quality of education among the student. Using IoT in education we can move traditional blackboard methods to e-learning (Electronic Learning) and m-learning (Mobile Learning) technique. This leads to right kind of education to each student. Now IoT can change responsibly of the educator to an active manager which means that educator spends more time on managing to personalize learning.

**IoT For Student**

If student learns with audiovisual content then they can easily understand the content and concept. IoT can provide customizable multiple learning contents according to students need. It is useful to develop self-learning capacity and intellectual capacity. [7]

Smart devices are used in IoT to record student’s learning activity. Based on this recording, teacher or parent knows the performance of the student and based on this performance they can take necessary steps. The Student will prepare their homework on smart devices which are given by their teachers. If the student faces some problem in the homework they will ask to teacher or search on internet. They can take help from parents also. Due to IoT, students can easily receive a response on the homework. On this response on homework, parents can observe student progress every day.

IoT will generate personalize learning environment in schools. [use of ict] Also by using IoT teachers will generate chat group of students of specific class. A student will communicate with each other using this chat group. This will increase knowledge about smart technology in early age. Due to this student will become comfortable with the new technology in his future learning.

IoT has lots of sources related to games, learning apps, and puzzles. By using IoT teachers and parents allows students to access only such games and puzzles which have some important educational content and also useful for student.

IoT used by students to connect new word of knowledge, self-learning, learn advanced technology, understanding new concept with multiple demonstrations, develop creativity, increase diagnostic power etc. Nowadays many textboxs have QR codes. By using IoT, student scans these QR codes and access more information about that topic.

IoT gives great environment for student to improving academic opportunity and makes a student gain success in this digital society.

**IoT For Teachers**

It is real fact that not any single teacher is capable to give detail knowledge about the subject. This limitation can be overruled by using IoT technology. Using IoT, teachers may improve superiority in the teaching and learning method. Using IoT teacher may prepare his teaching aid in different format. In the teaching aid, he can give the different examples with audio and visual effects. He can explain the content easily and fluently as well as it will accomplish realistic expectations of parents and students. [8]
IoT is used to store detail information about student i.e. student’s personal information as well as all previous class records. This information will be updated by the teacher. A teacher can record daily attendance in this data. All this information is on IoT so it can be easily available to authorized persons such as parent of student, teacher, administrator of school etc.

Teachers can prepare homework assignment on smart devices and distribute it to all students. Students may solve these assignments and the teachers can assign grades to assignment. This grade will be recorded in student database for further use. Based on these grades, teacher may update his study material or create new study material. This material can be prepared to meet need of individual student so that student’s performance will be improved. [9] Teachers can prepare vocational topics which will increase the attendance of student as well as it will engage the student in classroom. It also gives general information apart from curriculum. [8][10]. IoT can be used to create attractive presentation of syllabus, which will help students to concentrate on topic, better understanding of topic and long retention about the topic information. It will also encourage the teaching process and students towards positive attitude to learning. IoT will increase readability of teachers as well as reduce teaching time [11]. Also, they can create presentation for effective teaching.

**IoT For Administrator**

IoT is very useful for administration purpose. Administrative staff uses IoT for office work such as writing letters, notices, handle financial work, keeping student records, storing government GR and other tasks. Now a day government enforces all school to feed all information in SARAL portal. SARAL portals consist of information about school infrastructure, staff information, student information etc. If Administrative staff uses IoT then they can easily fill and update SARAL information from anywhere and anytime. Also, they can use IoT for office work such as pay sheet creation, balance sheet, creating and maintain audit report and other financial work.

To improve learning activity, administrator may install smart classroom which consists of smart board, digital highlighter etc. latest devices which are related to IoT are used. Teachers and students interaction will increase due to IoT in the classroom [10].

In Right to Education (SarvaShikshaAbhiyan), at first standard school must maintain individual student record (Portfolio) in the form of file or notebook in specified format. If school or teacher uses IoT technology for this purpose then this information is maintained digitally and after each year this information of student will pass to next school of next teacher. This portfolio contains achievement of student, cumulative records, achievements in subjects, summarized evaluative and descriptive information of each year. According to this portfolio, each teacher identifies student’s background and create teaching plan.

Security of student is one of the major issues in front of administrative staff. IoT is the best solution for security. If school management uses RFID chip in student identity card then management will keep track of student [12] [13]. This is also useful for automatic attendance recording of student. If GPS based bus system is adopted by the school then they can easily track bus and maintain security. [9]

In short when IoT is used in administration section of school, reusability is achieved and so that it can reduce office cost, reduce energy costs, required less manpower and save time. It also increases efficiency of office, effectiveness of office and overall working office [14]. They can take informed decision for improvement in student-teacher learning activity as well as concentrate on campus security. IoT is used to focus and achieve management's objectives.

**IoT for Parents**

We know that most of the people directly or indirectly use smart devices. IoT is useful for parents view because it will focus on his child’s educational performance. If parents want to know detail information about educational activity about his child, due to use of IoT it can be easily available anywhere and anytime.
Using smart device, parents also gives educational games, puzzles, educational content, and other general information at home to the student. If parent found some lacking in education knowledge of his child, then he will contact teacher using smart device and request them to take appropriate action for improvement in educational activity of his child.

If GPS enabled bus system is adopted by the school then parent easily knows location of bus so they can catch bus easily at pickup point. Due to this parent doesn’t require to wait for bus i.e. it will reduce parent’s waiting time. [9]

As per parents view, IoT is useful for detail control on educational activity of his child.

IoT for Government

IoT is nothing but storage, network and analysis. On government point of view, IoT is used to store detail information about school, staff, student etc. this information is analyzed by authorities and make decision for improvement. Government authorities analyze each school and if they found some problem then they take appropriate decision so as to improve school education.

If government can make any new decision, then due to use of IoT it is easily accessible by school, teacher and parents also. In short IoT is very useful for government for controlling educational activities. It reduces cost, staff, as well as time. Due to IoT, government executes educational activity efficiently and effectively.

Conclusion:-

IoT is one of promising technology in this digital world. Education is basic need of human. If IoT is used in education sector, it will improve safety and faster learning. Using IoT schools becomes smart which will smoothly execute educational activities, focuses on personalized learning.

According to students view, IoT is useful for faster, personalized learning activity. Students will know digital word in his early age. Teachers can use IoT for preparation of new teaching methods, assignments, personalize tutor, chat group etc. They also use IoT for the automated attendance of student, monitor student health. Parents are used IoT to keep track of educational activity of his child. They also request the teacher to arranging personalize tutor for his child.

The administrator uses IoT to maintaining student security. They also use IoT for office work, storing staff and student information, result etc. The Government may use IoT for improvement of educational activity, storing and monitoring staff activity.

Overall we can say that if IoT used in education sector it will improve student learning ability, student’s overall performance, and school performance. Due to use of IoT, it will reduce office cost, office staff, and time. The most prominent advantage of IoT is education is on environment. Most of the communication will be done in digital form so there is no need to use papers. As papers are not used, it leads to saving environment. Lastly we can say that IoT in education is nothing but “Education at Anytime and Anyplace”

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DISSIMILARITY MINING: A TEXT MINING APPROACH

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Abstract:
The Syllabus of most of the Universities is different. So if teacher, student or industrialist want to compare the syllabuses of different Universities to learn the concepts other than his university syllabus, he has to sort out it manually. It is very time consuming. For this purpose, we have developed an application by using the language python which sorts the dissimilar points in syllabuses and display it on the screen. The code is of very few lines. The application is easy to learn and operate. It saves time and sorting efforts.

Keywords: dissimilarity, text mining, semi-structured, amorphous, extraction

Introduction
Text databases consist of huge collection of documents. They collect these information from several sources such as news articles, books, digital libraries, e-mail messages, web pages, etc. Due to increase in the amount of information, the text databases are growing rapidly. In many of the text databases, the data is semi-structured. Data Mining is defined as extracting information from huge sets of data. In other words, we can say that data mining is the procedure of mining knowledge from data. Compared with the kind of data stored in databases, text is unstructured, amorphous, and difficult to deal with algorithmically. Nevertheless, in modern culture, text is the most common vehicle for the formal exchange of information. The field of text mining usually deals with texts whose function is the communication of factual information or opinions, and the motivation for trying to extract information from such text automatically is compelling—even if success is only partial. Just as data mining can be loosely described as looking for patterns in data, text mining is about looking for patterns in text. However, the superficial similarity between the two conceals real differences. Data mining can be more fully characterized as the extraction of implicit, previously unknown, and potentially useful information from data. Python is high-level, interpreted, interactive and object-oriented scripting language. It is designed for to be highly readable. Python is derived from many other languages including ABC, Modula-3, C, C++, Algol-68, Small Talk and Unix shell and other scripting languages. It provides high-level dynamic data types and supports dynamic type checking.

Literature Review
In information regain[4], Okapi BM25 is a ranking method used by search engines to rank matching documents according to their relevance to given search query. It is based on the probabilistic gains framework developed in the 1970 nd 1980s by Karen Spark Jonesn. SVM is the lack of placidity of results. Text mining is very important since now a days, around 80% of the information stored in computers (not considering audio, video, and images) consists of text. What seems to give text mining a clear distinction from data mining is that the latter deals with structured data, whereas text presents special characteristics and its explicit appearance is basically unstructured. The linear pattern mining was first introduced by Agrawal and Srikant. Information retrieval deals with the retrieval of information from a large number of text-based documents. Some of the database systems are not usually present in information retrieval systems because both handle different kinds of data. Data mining is widely used in diverse areas. There are a number of commercial data mining system available today and yet there are many challenges in this field.

Dataset preparation
Data set consist of syllabus of Software Engineering of six Universities as BSC Computer science of Delhi University, B.E(Computer) of Mumbai University, B.E(Computer) of Pune University, MCA of Rajasthan University, MCA of Shivaji University and BE(Computer) of Solapur University. There are lot of points of syllabus which are dissimilar in between them. First the syllabus of all the universities are copied in notepad file with .txt
extension, one file for each university. Then by using the language python each university file is opened in read mode by using the file read technique. Then for each university-subject a set objects are created. All the files were read one after another and added that file contents in a different variable for different universities each word at a time by removing the leading and trailing whitespaces and doing all the letters in each words as lowercase. Because the words in one file may be upper case and in another may be in a lower case. For that for loop is used.

After that those variables values are added one by one in a set object. One set object for each university subject. Finally the six sets were created which has the words as values listed. Then by using the symmetric_difference operation of set each set object is compared with different set object. After that files were closed. And if the dissimilar points were found then that points are displayed on the screen of python IDLE. The Python IDLE prompt runs this program and displays the output in the IDLE window. at a time two files are compared.

Result

fig 1 The Count of total points in each syllabus
fig 2 The dissimilarity between Delhi University BSC and Solapur University Engineering Syllabus

set(['software engineering definitions', 'concepts of risk and risk management assessment', 'testing fundamentals', 'management activities', 'software processes', 'project execution and closure', 'design principles', 'project metrics', 'process analysis and modeling', 'user interface design', 'quality control', 'software configuration management process', 'quality concepts', 'software development process models', 'process classification', 'extreme programming', 'software processes', 'software engineering paradigms', 'oo design', 'characteristics of a', 'process and product quality improvement', 'planning verification and validation', 'project management and the cmm', 'language processing systems', 'function and object oriented design', 'implementation', 'process management process', 'various software process models', 'event processing systems', 'the project planning infrastructure process database', 'team management', 'risk management', 'quality assurance and standards', 'managing software projects', 'software project planning', 'software prototyping', 'design methodology', 'verification and formal methods', 'process change', 'asset and the body of knowledge system', 'system requirements', 'punctum', 'improvement framework', 'the structure of the project', 'uml diagrams', 'management plan', 'customer communication and issue resolution', 'agile methods', 'user requirements', 'design notation and specification', 'adaptive & integrating the agmt colkit', 'process iteration', 'application system reuse', 'requirements management', 'design patterns', 'configuration management', 'risk control', 'project management', 'functional and nonfunctional requirements', 'user analysis', 'effort estimation', 'automated static analysis', 'data processing systems', 'software requirements analysis and specification', 'iterative project management life cycle', 'adaptive project management life cycle', 'feasibility studies', 'safety specification', 'validation', 'software productivity', 'problem analysis', 'defect analysis and prevention project', 'system models', 'software reliability specification', 'empirical', 'testing process', 'design issues', 'module level concepts', 'oo analysis', 'software measurement and metrics', 'component testing', 'al
fig 3 Dissimilarity Between Solapur University Engineering and Rajasthan University MCA syllabus
fig 4 Dissimilarity between Delhi University BSC and Shivaji University MCA syllabus

Count of DelhiUni BSC Syllabus points 46
count of Shivaji University MCA Syllabus 46
Dissimilarity Count 80

Fig 5 Various University Course Names and their individual count of syllabus points
Fig 6 Dissimilarity and total count of points between two University syllabuses

Fig 7 Dissimilarity and total count of points between two University syllabuses
Fig 8 Dissimilarity and total count of points between two University syllabuses

Conclusion

In many Universities the syllabus of the subjects are dissimilar compared to other universities. Means the subject name is same but syllabus contents are different. So, If to sort out that dissimilar syllabus manually, instead we can use this method for listing the dissimilar points in syllabus. It will help the teachers, students, industrialist to compare the syllabuses. And if teacher found some useful content in other university syllabus then he can add it in their syllabus. It will also assist universities while changing the syllabus structure. It will save time, efforts of sorting the syllabus.

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APPLICATION OF ENTERPRISE RESOURCE PLANNING (ERP) IN EDUCATION SECTOR

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Abstract:
Complex information systems like the Enterprise Resource Planning (ERP) integrate the data of all business areas within the organization. The implementation of ERP is a difficult process as it involves different types of end users. Providing education for children being a necessity of modern world strives in getting the best results in that particular field. As we are heading towards the highly competitive world, our future generation has to get the best in the field of education so that they can meet the future challenges without any difficulty. Training for the digital world has to be provided at the basic level itself. In view of this, the paper overviews the application of ERP in higher education system, finds some important advantages and implementation issues in India.

Keyword: ERP, software, higher education system, competitive world.

Introduction:
Unsolvable college assets are faculty, students, and staff, and each group has a unique interest within the same organization. For example, a university for faculty is where you teach, research, and write your research results. Students learn, live, and have fun. Non-faculty members are responsible for the company’s work to free teachers and students for academic activities. University ERP integrates teachers, students, and staff under the same umbrella as shown in Figure 1.

Figure 1: University Campus ERP
Benefits At University From Erp

Advantages Of Erp
Improved data access for outlining and managing the educational institutions. Services for the administration of the faculty, students, and employees improved. Reduction of stationery costs. Increased outcome.

Figure 2: Represents ERP System Model of Higher Education in India.

Purpose Of Using Erp In Higher Education Systems
The higher education manages costs and possibilities offered by enterprises. Resource planning (ERP) software, given the functionality of the ERP software implementation. It has a lasting impact on academic institutions. ERP software applications integrate data processing. Automate management across your organization processes such as student enrollment and finance accounting. However, ERP software implementation gives stress to the campus in the best circumstances. Depending on your organization's readiness to accommodate change, Implementation can cause great confusion. Facilitate continuous change that helps organizations achieve its mission better. ERP application implementation becomes a way of life. Finite projects, campus leaders are doing well. Recommended to identify implementation best practices to increase their chances of success, ERP packages are implemented to manage existing packages. Expected Business Plans and Policies Efficient way within strict deadlines.

Nature Of Erp Systems In Universities
There are several configurable ERP systems modules that integrate core business activities integrated into one environment, shared database. Enterprise resource planning (ERP) systems are the most recognized important
development of the enterprise information technology in the 1990s (Davenport, 1998), all information flows throughout the enterprise. This applies to ERP system applications. It plays an important role in supporting business processes. In many organizations, ERP is perfect process integration between functional areas finance, Human Resources, Manufacturing logistics. They have an improved workflow, standardization and improvement of business practices function. Implement enterprise resources companies will improve with planning (ERP) systems show. However, implementing an ERP system costly, time-consuming tasks and these costs mainly lack of experts ERP technology. In this white paper industry ERP professional needs, ERP educational scenarios in Indian situations the integration of industrial schools and business schools.

**Erp In Higher Education In India**

India has progressively developed elementary Education attendance and expansion about two-thirds of literacy population. India should aspire to the international community standards of Education. To achieve that goal adopts both new modern technologies and standards educational Institutions. Companies have more usage of ERP systems. Strategic characteristics, need to evolve ERP curriculum you must reflect and support this purpose. Information University System Curriculum responding to rapid and sustained change evolution of industrial requirements. one, an in-depth study of this to provide useful information to practitioners study framework for understanding

**Implementation And Associated Issues**

Implementation and college management systems need their own time to be fully available. You need to give them time to get the ultimate benefit. Time consumption again depends on cloud-based and web-based variants. All aspects such as customization, integration, data migration, and user training must be performed correctly. With the help of the school ERP system, you automate the day-to-day activities of your institution, enabling you to produce more in less time. Implementation of training ERP often requires other changes in the management of the institution, while vendors provide training and support, but resistance to change is difficult. As a result, users such as students, teachers, and staff should spend enough time to allow trained staff to use ERP to derive the expected benefits of implementation. After completing all phases of an ERP implementation, you should always make the required changes to avoid inaccuracies.

**Conclusion**

Getting the best value from your ERP investment is a challenge. This hybrid IT governance framework, ERP-BPM-SIRV, suggests that institutions should implement IT governance principles such as KGI and KPI identification, business/IT coordination, SI evaluation, RFP preparation, portfolio management and monitoring implementation. Optimal value of this framework also helps mitigate challenges such as strategic goals, ERP teaming, top executive support, IT maturity, and a clear understanding of project management issues during ERP implementation.

IIML achieved the desired value in the ERP system according to IT governance principles. ERP has created value for IIML in the form of increased BML and BPI, improved cost management, and increased productivity. The ERP-BPM-SIRV framework can be useful for other educational institutions planning ERP implementations.

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ASSESSMENT REFORMS TO ENHANCE LEARNING OUTCOMES: A QUEST FOR CONSTRUCTIVE ALIGNMENT OF THE CURRICULUM

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Abstract:
A curriculum is broadly defined as the totality of student experiences that occur in the educational process. It is what is intend for students to know, be able to do, and value as a result of learning. It includes the content of courses (the syllabus), the teaching methods employed (instruction strategies), and the evaluation process (assessment). Curriculum and instruction alone represent an incomplete model of teaching and learning in the classroom unless assessment process is taken into consideration. The assessment process is significant for having a detrimental effect on teaching and learning. Through the assessment process, a teacher knows what to teach and how to teach it, and to which degree the students are learning at any given point in time. The assessment process can be extraordinarily valuable in helping teachers understand and improve their teaching practices and thereby improve student learning.

The present research paper is a quest for assessment reforms to make a constructive alignment of the curriculum major components: syllabus, teaching / learning and evaluation. The conception of assessment as a means of promoting learning can be fulfilled only through having a clear understanding of the whole parts of the curriculum. To provide a good educational system, the components (curriculum, teaching and assessment tasks) are necessarily aligned, integrated and tuned to support learning outcomes.

Introduction to 'Constructive alignment'
'Constructive alignment' starts with the notion that the learner constructs his or her own learning through relevant learning activities. The teacher's job is to create a learning environment that supports the learning activities appropriate to achieving the desired learning outcomes. The key is that all components in the teaching system - the curriculum and its intended outcomes, the teaching methods used, the assessment tasks - are aligned to each other. All are tuned to learning activities addressed in the desired learning outcomes. The learner finds it difficult to escape without learning appropriately. Biggs J. B. (1996, 2003 & 2008).

The ‘alignment’ aspect refers to what the teacher does, which is to set up a learning environment that supports the learning activities appropriate to achieving the desired learning outcomes. The key is that the components in the teaching system, especially the teaching methods used and the assessment tasks, are aligned with the learning activities assumed in the intended outcomes. The learner is in a sense ‘trapped’, and finds it difficult to escape without learning what s/he is intended to learn. Biggs, J. (2003)

Teaching, Learning and assessment:
Education mainly involves teaching, learning and assessment. Teaching is the foundation; learning is the guarantee; testing is the intermediary. The three aspects are indispensable, linked to each other and dialectical unity. Interestingly, the act of teaching is not complete until learning has occurred. When trying to define teaching , it is defined in some way that includes mentioning of another term: namely, learning. So, learning is integral to the act of teaching. Gareis Christopher. R. and Grant Leslie W. (2015:1-2) "define teaching as the intentional creation and enactment of activities and experiences by one person that lead to changes in the knowledge, skills, and/or dispositions of another person". Accordingly, "learning as a relatively permanent change in knowledge, skills, and/or dispositions precipitated by planned or unplanned experiences, events, activities, or interventions. Thus, for the act of teaching to be complete, it must result in learning within another". Central to this relationship between teaching and learning is the ability of a teacher to discern that students are, in fact, learning. Assessment is the means by which a teacher knows what students are or are not learning. So if teaching necessarily involves learning,
an important corollary follows: How do teachers know what their students have learned? Teachers need some way of seeing learning. This is a question of assessment. The way teachers see student learning is through a process known as assessment, and assessment, like teaching, is integrally related to our definition of learning. We define "assessment" as the process of using tools and techniques to collect information about student learning. In other words, assessment is the way teachers see their students’ learning. Assessment is integral to teaching.

**Curriculum, Teaching and evaluation:**
Curriculum is what we intend for students to know, be able to do, and value as a result of learning. It is the set of intended learning outcomes for students. The act of teaching and learning is comprised of two essential components: curriculum and instruction. On the other hand, instruction is how we bring about learning. Teaching is comprised of the planned and unplanned experiences provided by a teacher that are intended to result in the acquisition of a set of intended learning outcomes for students. In short, for teachers in schools, curriculum and instruction are the stuff of teaching and learning. Gareis Christopher. R. and Grant Leslie W. (2015:3). However, curriculum and instruction alone represent an incomplete model of teaching and learning process. If assessment is the means to discern student learning, then, in its absence, teaching becomes all about teachers and their decisions and not about the students and their learning.

**A quest for Alignment of curriculum, instruction and assessment:**
To have a good educational system, there should be an alignment between the three main components of the educational system: curriculum, instruction and assessment. "What the teacher intends for students to know and be able to do (curriculum) should be what the teacher engages students in so that they will acquire the intended knowledge and skills (instruction), and then the teacher determines the students’ acquisition of this set of new knowledge and skills in order to make decisions about what to do next (assessment)". Gareis Christopher. R. and Grant Leslie W. (2015:49) To construct a valid and reliable assessment, teachers must have a clear and specific understanding of the content. Understanding the nuances of the explicit, implicit, and conditional content of the curriculum is an important start, but it is not itself sufficient. Teachers must also be clear about the level of cognitive demand. Creating a valid and reliable teacher-made assessment must begin with a teacher understanding the intended learning outcomes for students.

To ensure the alignment of the three aspects of education mentioned above, a teacher has to construct a table of specifications for the curriculum to be taught. The creation and use of a table of specifications to guide the design and construction of teacher-made assessments is a critically important competency of what it means for a teacher to possess assessment literacy. Creating a table of specifications is simply a means of showing the intersection between the content and cognitive level of a set of intended learning outcomes and then ensuring that the planned assessment has an adequate and proportional number of items to account for those intended learned outcomes. Based on this table of specification, a teacher will have a clear image about the content of teaching, intended learning outcomes and how to assess these intended outcomes.

For creating the table of specifications of the curriculum content, a teacher has to unpack the curriculum content. Unpacking is a common term used to describe the process of reviewing curricular standards or objectives in order to identify the intended content and the intended cognitive levels of learning for students. Unpacking intended learning outcomes is sometimes referred to as deconstructing or unwrapping objectives. The purpose of unpacking intended learning outcomes is for teachers to clearly and deeply understand the content and cognitive rigor of the curriculum of a given instructional unit for students.

These are three layers of the curriculum content: explicit content, implicit content, and conditional content.
1. **Explicit content**: It refers to the subject matter directly referred to in a statement of the intended learning outcome. The explicit content contained in this intended learning outcome includes both estimation strategies and reasonableness of results of calculations. This content is explicitly stated in the standard. It is the what of the curriculum content.

2. **Implicit content**: It refers to the prior knowledge and skills students need to engage with the explicit content. These are the prerequisite knowledge and skills that students need to have to estimate and evaluate the reasonableness of the calculations and abilities.

3. **Conditional content**: This content covers the specific circumstances, contexts, or materials through which the student will engage with the explicit content. What conditions, content, or materials are necessary or facilitative for students to engage with the explicit content? In this standard, students must use given problem situations that reflect the real world to demonstrate their ability to employ estimation strategies. This is a condition placed on how the students demonstrate their knowledge and skills; thus, it is conditional content. Equally important is the use of a table of specifications to ensure that an assessment does not include items or content at a level of cognitive demand not indicated on the table of specifications.

**Aligning Educational Assessment to Learning Outcomes:**

Educational assessment typically serve two purposes. First, it is a key input into personnel decisions (e.g. promotion, pay and tenure). Second, it is used for instructor development and course improvement. Moreover, our purpose here is that educational assessment of students could be used as input for evaluating an instructor’s effectiveness, our objective is to provide information to improve course offerings by highlighting areas where opportunities exist to enhance courses through changes in content or teaching methodology. Our purpose should be viewed as a supplement providing information on course content and mastery that may well be missing from typical student evaluations.

Both researchers and faculty have different perspectives on what is actually measured by the typical student evaluations of that are taking place. Researchers have used measures of student achievement and satisfaction with the course to assess the quality of teaching effectiveness and education as a whole as it is believed that students' evaluations are valid measures of the quality of instruction. However in some cases, students' evaluations are viewed to be a measure of how much the students liked the instructor, rather than a measure of teaching effectiveness.

**Conclusion:**

This paper summarizes the presentation of the integrated nature of the teaching, learning and assessment process. Teaching is not a singular event that perfectly and inevitably leads to learning. Rather, in the words of Gareis Christopher. R. and Grant Leslie W. (2015:3) "teaching is a recursive, interdependent activity that relies on teachers to determine accurately what students are learning, to what degree they are learning, and what they are not learning. Teaching relies on teachers’ ability to collect information about student learning to make decisions about what to teach and how to teach next. In other words, assessment is integral to decisions that classroom teachers must make about both instruction and curriculum".

The evidence of the effect that assessment practices in the classroom can have on the quality of teaching and the improvement of student learning is being carried out in research recently. Assessment is not only a measure of student learning, but a means to student learning. A teacher has to learn how to weave together curriculum, instruction, and learning to make assessment a more natural, useful part of teaching.

A teacher has to ensure that the assessments are fair, reliable, and valid through the following practical steps:

1. Constructing the assessments that meet the level of cognitive demand expected of students;
2. Creating select-response items and understand technology-enhanced items that are increasingly being used in assessments;
3) Using constructed-response items and develop scoring criteria such as rubrics;

Bibliography

ROLE OF TEACHERS IN 21st CENTURY : QUALITY ENHANCEMENT IN TEACHING WITH REFERENCE TO LEGAL EDUCATION

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Introduction:
More than ever before in our history, teaching is the profession that is shaping the nation's future--molding the skills of our future workforce and laying the foundation for good citizenship and full participation in community and civic life.

Accordingly, what teachers know and are able to do is critically important. Yet, we face daunting challenges as we seek to ensure a national teaching force of the highest quality. As classrooms grow more challenging and diverse, these teachers will need to be well prepared to teach all students to the highest standards. Contemporary classrooms and social conditions confront teachers with a range of complex challenges previously unknown in the profession. New education goals and tougher standards, more rigorous assessments, site-based management, greater interest in parental involvement, the continuing importance of safety and discipline, and expanded use of technology increase the knowledge and skills that teaching demands.

The Law education is of vital importance now-a-days. Earlier after completing law degree each and every one used to prefer commencing practice in the Law Courts. However, in the present era apart from traditional practice many other options like Judiciary, Law Officers, Defense and Teaching etc. are available. In this state of affairs the students needs to be prepared to face new challenges. As a consequence of this law teacher plays a pivotal role, his responsibility is increased. He must satisfy students, the Management and the society.

Parameters Of Law Teaching
As stated above the Law teaching now-a-days attained completely new dimension. Quality of good Lawyers and Judges has nexus with the quality and effective teaching. Then question arises as to what is quality and effective teaching? No doubt Law teaching requires expertise in the field of law. The term quality and effective teaching may include the quality of teachers and equally effective methods of teaching.

The dominant method of law teaching was lecture method, requiring little or no intellectual participation by the students. Till very recently and till date in some institutions this is the only method being opted. This left, virtually, no scope for the development of skills of communication, intellectual dialogue or quick thinking—skills admittedly indispensable for legal profession.

Most of the time students so also some teachers take recourse to some short notes available in the market. Discussions are taken in the classroom. It gives very little scope for real discussion in the class.

As a mandate of duty most of the time teachers concentrate on curriculum and completion of the same, so as to facilitate the students to face examination. This hardly gives little time to teacher to see beyond the curriculum, particularly overall development of the student as well as teachers’ own up-dating. That’s why most of the teachers are not writing scholarly articles or research papers etc.

Internship program, Lawyers Chamber Visits, Case Study, Project work and above all Clinical Legal education plays major role in the efforts to reform legal education in India, with an emphasis on improving the quality of law practice and increasing lawyers’ awareness of their professional and public responsibility. Clinical legal education gives law students a far deeper and more meaningful understanding of law, the legal profession, and the roles that various actors – lawyers, judges, clients – play in the legal system than those same subjects are taught with traditional methods in the classroom. Obviously, the successful implementation of the clinical methodology depends
upon the quality of its practitioners – in this case, clinical law teachers. Clinical teaching requires a special commitment on the part of the teacher in order to imbibe in the students a strong sense of confidence and enthusiasm for their clinical work.

Problems In Law Teaching

Who is an average law teacher in India at contemporary times? From current Indian practice, it can be either an LL.B. graduate with some years of practice as an advocate or LL.M. graduate with B+ who has passed the NET or SET qualifying examination of UGC. There is no training whatsoever needed to become a law teacher, though teaching is considered a profession different from the profession of law.

Teachers are not made in heaven; nor can they be manufactured on line. Of course, one has an aptitude for the profession, it is helpful to learn the skills of the profession. Knowledge one can always get or acquire by extensive reading and self-study. Both the art and science of pedagogy can only be learnt by practice, experience and by interaction with people who are accomplished teachers in their respective subjects.

Except few Law Schools in India, most of the law colleges/institutions are having students from rural or semi-urban areas, having language problem. Since Law education and teaching throughout the territory of India is imparted in English language only, it is very difficult task for the teacher to cope up with this problem. Further there is non-cooperation from the students in making efforts to overcome the language problem. This is because one come across with the poor quality of law students and so also some law teachers.

Funding to law colleges is also one of the barriers in imparting effective law education in India. Law Colleges are not given grants or funds for infrastructure. So also the fee structure is not good there are very low fees charged for such an important studies and hence most of the law colleges are having poor infrastructure which hampers the legal education. However, due to various norms of UGC, Bar Council of India and NAAC now a days we come across the improvement in infrastructural amenities including library etc. but still much is required. Since academic year 2016-17 the State Government has introduced new mechanism through CET Cell for admissions of both Law Courses i.e. Three Year and Five Year Law Course. In addition to this there is little bit enhancement of Fees also. But these fees are also not compatible and sufficient to fulfill the requirement of effective running of the Law Colleges and Law Courses.

In this modern era of globalization and technological age it is necessary to have technology in the institution. There is required that the new technology shall be adopted by the teachers and encourage the student to adopt the same to make themselves fit to compete with others. In law education technology plays an important role. There are different sites on the net having voluminous information about different legislation, judgments, Amendment and new horizons etc. Students are reluctant in using the same during their study. This also creates barrier in prosecuting law study with competence.

Most of the Law Colleges is not having adequate/required number of teaching faculty. Government is taking review and carrying out assessment to fill the vacant posts. But till date there is no improvement.

Analysis Of Role Of Teacher

In the present era apart from traditional practice many other options are available. In this state of affairs the students needs to be prepared to face new challenges. As a consequence of this law teacher plays a pivotal role, his responsibility is increased. He must satisfy students, the Management and the society.

Higher education generally and legal education in particular are undergoing revolutionary changes and offering immense opportunities for youngsters to influence the direction of change and be in the leadership. For utilizing these opportunities with competence and confidence, young teachers have to equip themselves with knowledge, skills, innovations and commitments on the changing scenario of legal education globally. To sum up, the role of teachers in 21st Century is very challenging in the field of Law education.

Suggestions/Strategies For Enhancing Law Teaching
1. If LL.M. Degree is made a teacher training course and the requirements including subjects of study are accordingly modified, it would help to lay the foundations and show the roadmap to become a good professional. Unfortunately, that has not happened. In the circumstances, instead of classifying newly appointed teachers as good and not good, what is required to do is either to train them according to a well-designed plan during their probationary period or put them through continuing education programmes or orientation courses meaningfully developed and conducted by experienced teachers on the subject. The Academic Staff College courses sponsored by the UGC could not serve the purpose, at least in the field of law.

2. Teachers shall be provided an opportunity to look into the development of them. They shall be encouraged and compelled to write research papers and articles. For academic development teachers shall be encourage to carryout research studies like Ph.D., Major and Minor Research Projects. For this there shall be sufficient time and leave with wages shall be given. So also there shall be funding from the UGC or Government. This does not mean that presently there is no provision for such purpose. However, rules/regulations and requirement for allocation of such research grants are very strict. Hence only few Law Colleges/Institutions are beneficiary of the same and majority are deprived. If such grants are allocated to each college solve many problems of the colleges. This will ultimately enhance professional and academic competencies of the teachers, which would ultimately help students teaching.

3. At regular period there shall be orientation programs for law teachers providing them an opportunity to update their knowledge which will increase efficiency of the teachers. Such programs in particular include training pertaining with the use of technology in teaching, innovative teaching methods etc.

4. There shall b faculty exchange programmes. This will create bond between the teachers in different parts of the State or Regions. So also there will be exchange of skills, knowledge and practice adopted or followed by different colleges/institutions imparting Law education.

5. Likewise there shall be some programs for the students for improvement of English language. This can be done by having language laboratory and a person expert in communicative English. This will enhance the confidence of student and they will take interest in understanding law.

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USHERING THE CONCEPT OF KNOWLEDGE-BASED ECONOMY IN THE CURRICULUM

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Abstract:
With the rise of open and distance learning enabled by new ICTs and new methods of context-situated and problem oriented teaching and learning and later, there was a broader emphasis on the role of education in promoting the globalizing, knowledge-based economy and the development of human capital become a topic of research of a high concern. Educational Institutions are increasingly expected to enable children to become enterprising subjects and develop their personal skills and capacity for work. The knowledge-based economy has become a research theme that is well-suited to trans- and post-disciplinary analysis because it is particularly complex and multifaceted. Jessop B., Fairclough N. and Wodak R. (2008:1) Knowledge-based economy development is actually producing new sub-disciplines and trans-disciplines as knowledge is applied reflexively to produce new knowledge. So, through this paper, it is a quest for designing an educational curriculum which should cultivate students not only with the professional skills of problem solving, conceptualization, visualization and communication, but also with a solid base of understanding about knowledge-based economy and after graduation needs.

Introduction:
A knowledge of economy is one where organizations and people acquire, create, disseminate and use knowledge more effectively for greater economic and social development. Knowledge has increasingly become an important means for value creation. Knowledge has become a vital commodity to countries, businesses and individuals in the 21st century - age of the knowledge-based economies. Knowledge is the most powerful engine of production. The extraordinary progress in information and communications technology, coupled with the increased speed of scientific, technological advance and global competition along with changing demand is the reason why knowledge is becoming more important. It important to be a part of the knowledge based economy because information and knowledge are replacing capital and energy as primary wealth-creating assets. Simons J. and Porter N. (2015).

Traditionally designed education works for educating students in three competency categories: (1) generic attributes such as problem solving and communication skills; (2) specific industrial design skills and knowledge such as design methodologies, visualization skills and knowledge, design thinking and design processes; and (3) knowledge integration.

Nowadays, countries are striving for a socioeconomic transformation to a knowledge-based society that excels in science and technology with a particular focus on the use and adoption of Information and Communication Technology (ICT) at all levels of the society and specifically in the education sector. Today’s economy and society have become increasingly knowledge-based. Intellectual capital is becoming as important as the financial capital for innovation and the future of economic growth. Human capabilities, leadership assets and experience, technology and information capital, collaborative relationships, intellectual property, information stocks and capabilities for shared learning and utilization that can be used to create wealth and foster economic growth have become the running force of the new economy. Fain, N., et al (2008:1375)

Role of higher education in promoting skills of Knowledge-based economy:
The role of universities is to promote content and skills in the students. Knowledge content involves two strongly inter-linked but different components: content and skills. Content includes facts, ideas, principles, evidence, and descriptions of processes or procedures. The skills that universities teach include critical thinking, problem solving, research skills, and encourage original thinking: just the skills needed in today's work force. So, higher education institutions provide society with a safe way of gambling on the future, by encouraging innovative research and
development. Training and lifelong learning have become a central component of economic as well as social policy in all countries and they were tied to the growing consensus that successful competition depends on building the knowledge base and human capital.

**Curriculum and Skills of Knowledge-Based Economy**

The skills development is relatively context-specific. So the skills need to be embedded within the knowledge domain of the curriculum. The content of knowledge in the curriculum can be transmitted equally effectively through a wide range of media, skills development also is much more tied to the teaching approaches and technologies. The major skill of Knowledge-based economy that should be included in the curriculum include communications skills, the ability to learn independently, ethics and responsibility, teamwork and flexibility, thinking skills (critical thinking, problem-solving, creativity, originality, strategizing), digital skills and knowledge management.

**Designing knowledge-based Economy Education**

In order to be capable of successfully fulfilling design tasks at various stages of the new product development process, designer competences need to be developed in different fields. Following the global trends specified, the design education needs to focus more on providing to students the knowledge and skills of communicating through alternative channels of communications, market analysis, marketing strategy, product planning, international and multidisciplinary views and an active attitude towards following the trends of continuous transformations of new technologies and product development processes. Also a more detailed approach towards the changing institutional relations in the knowledge-based economy needs to be integrated into the design education curriculum, because the emerging fourfold relations are significantly reshaping the role of the designers in the product development process. Apart from the traditional competencies that the design education needs to provide to students, a more structured approach towards the integration of different fields of design conduct is needed. Fain, N., et al (2008:1378)

**Conclusion:**

Research found that there is a gap between the knowledge that students gain at universities and the knowledge needed for practice after graduation. The role of the researchers is to explore how to reduce this gap in order to provide to employers with graduates that have the needed skills and knowledge for future demands of global design. This gap requires a shift in policy towards a knowledge based economy. It is in the highlight of the above, that it becomes imperative to dynamise the school curriculum to reflect the changing realities. The importance of education and human capital in economic growth has been at the center of recent economic planning and management. Education is a critical force that generates technological progress in an economy. Education and creation of human capital could be responsible for both the differences in labor productivity and the differences in overall levels of technology that we observe recently in different parts of the world. Kefela Ghirmai T. (2010:163)

So, Educational curriculum should be redesigned in a way that that" it will (1) fit with the changing economy relations, where special focus is done on university-industry-government-society interaction, and (2) enable students to gain practical knowledge and experience of global designing during the course of their study to enable a smooth transition from school to work”. Fain, N., et al (2008:1376)

**Bibliography**

21ST CENTURY AND SKILLS IN THE CURRICULUM

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Introduction:
This is the time of reform to the Curriculum and the broad mission of School and Education Institutions and the particular in relation to their role as developments of Skills and builders of new knowledge through Curriculum. Schools and Universities are concerned with different ways of taking up knowledge in their programs and purposes. Main way relates to the object of study constitutes to the Curriculum of these Institutions. Another way is about the particular characteristics that distinguish knowledge from innate skill. To some extent Schools and education Institutes are located differently in relation to skill development but both have been facing various problems.

Designed Curriculum In The 21st Century –
Adopting 21st Century Curriculum should blend knowledge, innovation skills, new trends, Computer literacy, critical thinking and real life experience in the context of core school subjects. In order to achieve authentic learning, students engage in the learning environment effectively and develop 21st century skills such as problem solving, collaborate learning, critical thinking. In this way students will be prepared with the knowledge and innate skills.

Compared with a world where knowledge was primarily exchanged in paper form or in face to face meetings, the power, the speed and the forms of new technologies pose challenges to education at all levels especially in relation to what is now foundational.

The School Curriculum – Which Skills?
Arguments about the overcrowded curriculum, the possibilities and significance of Computers, what knowledge or skills should not be considered foundational, underpin a myerald of reviews and reforms of curriculum around the world.

One approach to cutting through these big shifts in the world and the overcrowded curriculum problem is by finding a different kind of foundation conception for Curriculum and its structure rather than trying to amend or elaborate the Curriculum of the past and the subjects that it contained.

The School subject of the same time may not include or may resist changes now considered conventional in the cognate discipline of higher education. Commonly school curriculum reforms are not simply designed by subject or discipline specialists but have a broader professionals, community or political input. Such reforms commonly try to accommodate some outward looking assessment to what is import ant within subjects.

The Curriculum emphasizing Global awareness, communication skills, critical thinking, problem solving life skills, innovations, leadership, social and cross cultural skills, technological skills, co-operative learning skills. These skills increasing student’s abilities in the 21st Century.

Global Awareness –
Global awareness speaks to the need for students to be able to work collaboratively with individuals from diverse cultures, religions and life styles. This refers the ways in which students utilize 21st century skills to understand and engage with global issues and diverse learning communities.

Communication Skills –
The Communication Skills refers to the ability individuals to communicate clearly using written, oral, non-verbal languages in a variety of forms and contexts. Use communication for a variety of purposes such as inform, instruct, motivate etc., utilize multiple media and technologies for communicating effectively in diverse environments.

Problem Solving –
Problem Solving include the ability of individuals to ask pointed questions, reason effectively and analyze, evaluate alternative point of view and reflect critically on decisions.

Critical Thinking –
Critical Thinking is the ability to analyze, interact, evaluate summarize and synthesize information. In the 21st century for these skills students should give the availability of advanced technologies for accessing, manipulating, creating, analyzing, managing and storing the information.

Life Skills
The 21st Century Life Skills focus on the ability of individuals to work effectively with diverse teams be open minded to varying ideas and values, see and meet goals being accountable for results demonstrate ethical practices and be responsible to both self and the larger community.

Innovation –
This calls for a culture of innovation informed by data, research and creative thinking. This skill set promotes creative thinking and the ability to work with others creatively. Innovation skills be nurtured by teachers and learning environments that encourage questioning, openness to view ideas, learning form mistakes. There are multiple instruments and assessments that have been designed to measure creativity in specific field.

Leadership -
Leadership skills include the ability of individuals to work with the interest of the large community mind, managing time, prioritizing needs, working ethically, collaborating and co-operating with colleagues, capitalize on the strength of others to achieve a common goal.

Social and Class – Cultural Skills –
These skills references the ability to work well with colleagues, present oneself professionally and respect social and cultural differences. This ability is an essential 21st century life skills. Students should be able to work effectively with people from a range of social and cultural background interact effectively with others, work effectively in diverse teams.

Technological Skills –
Technology is a powerful tool. There are many options available in the virtual world from which educators can choose in order to achieve real meaning, enabling students to see the real world through their online experience. Role – play in online, stimulated learning environments and videos on youtube can be effective to show different subject and issues realistically.

This skill set includes the ability to understand media bias and the ways in which media influences beliefs and behaviors. Information literacy form the basis for lifelong learning. It enables student to become more self – directed. Different technologies have different capacities that make students particularly suited for specific learning tasks. Mobile technologies are continually evolving.

Co – operative Learning Skills –
This strategy divides students into different groups with diverse abilities and interests and has a powerful effect on learning that gives distinctive results. The group’s work is more creative because of the deep thought and integration of student’s strengths and talents. Collaborative learning has a positive impact on student abilities such as increasing their motivation and performance as well as developing social interaction. This skill increases student motivation.

Development of Skills -
Teachers play a significant role in helping students develop skills by applying various methods. Many technological tools can support different skills such as problem solving, collaborate learning, critical thinking and the learning environment. Increasing technological tools in education gives students opportunity to enhance academic and social skills as they communicate and share information, express opinions, organize their ideas conducting research.
through online experience. In this manner, students can work together to prepare their Projects which help their communication skills so they can deepen collaboration by working in group to collect the information using technological tools in teaching, teacher gives students the opportunity to engage in the real world which helps them increase their understanding and develop creativity and innovation skills.

Students have always used tools to support their learning such as books, pencils, paper, rulers, blackboard and calculators. Digital technologies are also learning tools used to support student learning. The new generation of digital tools is allowing learners to become generators of content instead of passive consumers of knowledge. Student can generate content in a virtual community. This provides greater opportunities to initiate, produce and share creations and to engage to peer to peer learning. It encourages students to become global citizens, capable of communicating and working in diverse contexts.

While the social realist arguments make a strong case about the need to learn about disciplines and modes of inquiry not just treat curriculum as a system of messages. The 21st century curriculum recognized as an attempt to engage students by choosing curriculum knowledge that is relevant to various skill development.

Conclusion:
In the term of the kinds of skills needed the students most frequently cited basic ability skills. The requirement to examine more closely the alleged or asserted linear relationship between the skills or demands of future life in relation to school leavers. Require the scope for using the key competencies to develop more considered democratic dispositions supported by a knowledge base curriculum and educational decisions should be reviewed and redesigned to integrate future skills explicitly. In the 21st century curriculum educators must integrate over 75% of future skills. Technological tools can support different skills. Students should be prepared with the necessary information and life skills that will help them achieve a future career.

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WEB 2.0 TOOLS: FOR ENHANCING CAPABILITIES OF SCIENCE STUDENT TEACHERS

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Abstract:
Education is the process of facilitating learning or the acquisition of knowledge, skills, values, beliefs and habits. In which ICT is an extended term for Information technology which is a technological source to make information available at the right time, right place in the right form to the right user. The present study throws light on the importance of web 2.0 tools to be used in science teaching learning this study aims to enhance the capabilities of science student teacher by using web 2.0 tools. In the conceptual framework the methods of analysis of document in type of library research, researcher have studied various web 2.0 tool like diigo toolbar prezi, wiki, blog, Surveymonkey. The web 2.0 tools will be enable to the student teachers to create awareness about ICT among Secondary students. The effective use of web 2.0 tools will be beneficial for the student teachers for improving the efficacy of teaching .the various web 2.0 tools will provide the appropriate atmosphere to develop self-learning, to interact with teacher, and develop research skill.

Key words: Web 2.0 tool, Science capabilities, Student teachers

Introduction:
Education is the process of facilitating learning or the acquisition of knowledge, skills, values, beliefs and habits. ICT is an extended term for Information technology which is a technological source to make information available at the right time, right place in the right form to the right user. Earlier, one had to wait for the newspapers to get the information across the world. Now with the smarter technology, information can be accessed from anywhere using smartphones and gadgets. All this is made possible with the help of Information and Communication Technology. Information technology has been influencing our lives in the recent years in the fields of education, healthcare, and business.

Information and communication technology in schools can be used as a school communication tool to improve student learning and better teaching techniques. This school communication software uses computers, the internet, and multimedia as the medium of communication in teaching learning process.

The use of ICT in education adds value to teaching and learning, by enhancing the effectiveness of learning.

Objective Of Study
To enhance the capabilities of science student teachers by using Web 2.0 tools.

Web 2.0 Tools
Web 2.0 is a term that describes the changing trends in the use of World Wide Web technology and Web design that aim to enhance creativity, secure information sharing, increase collaboration, and improve the functionality of the Web as we know it (Web 1.0). These have led to the development and evolution of Web-based communities and hosted services, such as social-networking sites (i.e. Facebook, MySpace), video sharing sites (i.e. YouTube), wikis, blogs, etc.

Web 2.0 Websites typically include some of the following features/techniques:

1 Search: the ease of finding information through keyword searching.
2 Links: guides to important pieces of information. The best pages are the most frequently linked to.
3 Authoring: the ability to create constantly updating content that is co-created by users. In wikis, the content is iterative in the sense that the people undo and redo each other’s work. In blogs, it is cumulative in that posts and comments of individuals are accumulated over time.
4 Tags: categorization of content by creating tags that are simple, one-word descriptions to facilitate searching and avoid having to fit into rigid, pre-made categories.

5 Extensions: automation of pattern matching for customization by using algorithms (i.e. Amazon.com recommendations).

6 Signals: the use of RSS (Real Simple Syndication) technology to create a subscription model which notifies users of any content changes.

**Followings are Web 2.0 tools**

<table>
<thead>
<tr>
<th>Edublog</th>
<th>Wiki</th>
<th>Youtube</th>
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<tbody>
<tr>
<td>LinkedIn</td>
<td>Diigo</td>
<td>Survey Monkey</td>
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<td>Skype</td>
<td>Prezi</td>
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**Edublog**

An edublog is a blog created for educational purposes. Edublogs archive and support student and teacher learning by facilitating reflection, questioning by self and others, collaboration and by providing contexts for engaging in higher-order thinking. Edublogs proliferated when blogging architecture became more simplified and teachers perceived the instructional potential of blogs as an online resource. The use of blogs has become popular in education institutions including public schools and colleges. Blogs can be useful tools for sharing information and tips among co-workers, providing information for students, or keeping in contact with parents. Common examples include blogs written by or for teachers, blogs maintained for the purpose of classroom instruction, or blogs written about educational policy. Educators who blog are sometimes called edubloggers.

**Uses**

- There are several uses of edublogs. Some bloggers use their blogs as a learning journal or a knowledge log to gather relevant information and ideas, and communicate with other people.
- Some teachers use blogs to keep in contact with students' parents. Some bloggers use blogs to record their own personal life, and express emotions or feelings.
- Some instructors use blogs as an instructional and assessment tool, and blogs can be used as a task management tool.
- Blogs are used to teach individuals about writing for an audience as they can be made public, and blogging software makes it easier to create content for the Web without knowing much HTML.
- Edublogs can be used as instructional resources, in which teachers can post tips, explanations or samples to help students learn.
- The use of blogs in the classroom allows both the teacher and student the ability to edit and add content at any time.
- The ability for both the teacher and student to edit content allows for study to take place outside the classroom environment, since blogs can usually be accessed using the URL of the blog on any computer.

**Wiki**

Wiki is a “collaborative workspace in which information can be gathered, shared, evaluated, organized or used to produce something new.”Wiki is a piece of server software that allows users to freely create and edit Web page content using any Web browser. It supports hyperlinks and has a simple text syntax for creating new pages and crosslinks between internal pages on the fly.

**Advantages of Wiki in Education:**

- Free: Most of the Wiki hosting platforms are for free.
No Need to Learn Coding: Creating and editing Wikis are very easy and user-friendly. They do not require HTML or other programming languages.

Anyone from Anywhere: Anyone can access as well as manage Wikis from anywhere with an Internet connection.

Collaboration: Students and educators from all around the world can collaborate and work on the same document.

Encourages Non-Technical Users: Non-technical users can also create and publish content with ease. There are people who have a great expertise in a particular area of interest but they can’t showcase their skills due to lack of technical knowledge. Wiki encourages all such users and widens their Web usage.

**Youtube**

YouTube is an American video-sharing website headquartered in San Bruno, California. YouTube allows users to upload, view, rate, share, add to favorites, report, comment on videos, and subscribe to other users. It offers a wide variety of user-generated and corporate media videos. Available content includes video clips, TV show clips, music videos, short and documentary films, audio recordings, movie trailers, live streams, and other content such as video blogging, short original videos, and educational videos. Unregistered users can only watch videos on the site, while registered users are permitted to upload an unlimited number of videos and add comments to videos.

**Ways to use YouTube in your Teaching**

- Ask your students to create “About Me” videos and share with the class
- Create a playlist of videos you are going to use in lessons
- Encourage your students to subscribe to relevant subject-related channels or playlists
- Showcase student work by creating a course channel
- Use TED talk videos (or other relevant videos) as a focus for discussion
- In place of a face to face presentation ask students to screencast* their presentation with a voice over
- Create how to guides to introduce new concepts
- Produce video summaries of assessment briefs and the marking criteria
- Use video to give students feedback (this could be a screencast with voice over)

*Youtube and other social media today has been used as medium in teaching. And yes, it’s a great help to encourage student to learn more because they are more attached to digital technology these days. Thanks for exploring more of it and sharing all your ideas in this post of yours.

**Linkedin**

LinkedIn is an online professional network aimed at promoting the interaction of customers and companies. LinkedIn allows customers to create profiles that companies can view (possibly leading to potential work positions). Therefore, customers benefit from this network by creating profiles that companies can view, and companies benefit by finding suitable candidates for job openings. Also, companies can post jobs that they need filled (helping users find jobs even easier.) Not only do businesses use LinkedIn, but LinkedIn is also used by friends and associates to find old classmates or colleagues. In this way, LinkedIn is similar to Facebook or Monster.com, but it incorporates the positive aspects and unique features of both.

LinkedIn also provides a search tab for customers. There you can search jobs, people, updates, and answers to any questions, groups, and even companies. This allows individuals to post questions, and other viewers or users can answer them. This is a special feature that promotes user interaction on the site. Though LinkedIn originated in the United States, it operates worldwide, and LinkedIn on cell phones is available in other countries as well. Because of all the unique applications, LinkedIn is a must for future entrepreneurs and business.

LinkedIn four main functions / abilities:

1. To exchange information, ideas and opportunities
2. Stay informed about your contacts and industry
3. Find the people & knowledge you need to achieve your goals
4. Control your professional identity online

**Diigo**
Diigo is a social bookmarking website that allows signed-up users to bookmark and tag Web pages. Additionally, it allows users to highlight any part of a webpage and attach sticky notes to specific highlights or to a whole page. The name "Diigo" is an acronym from "Digest of Internet Information, Groups and Other stuff". Premium account holders can perform full-text searches of cached copies of bookmarks. A full-text search also searches page URLs, tags and annotations. This means that premium account holders can choose to omit tags that already appear in the text of a page to be bookmarked.

Diigo is powerful information capturing, storing, recalling, and sharing tool. Using diigo, students can bookmark important websites and access them from school, home, the library or any internet-connected computer. Students will always have access to this data.

**Survey Monkey**
Survey Monkey is an online survey development cloud-based software as a service company. SurveyMonkey provides free, customizable surveys, as well as a suite of paid back-end programs that include data analysis, sample selection, bias elimination, and data representation tools. In addition to providing free and paid plans for individual users, Survey Monkey offers more large-scale enterprise options for companies interested in data analysis, brand management, and consumer-focused marketing. You can create a survey and discuss the results either in your face-to-face class or in a synchronous or asynchronous environment.

Use of Survey monkey in classroom
- You can create a survey and discuss the results either in your face-to-face class or in a synchronous or asynchronous environment.
- It gives you possibilities to tackle a topic in a more interactive way
- It is just a matter of finding an appropriate topic
- You can give students the chance to ask their own questions.
- For instance, your students are likely to have filled in online questionnaires already.
- It allows student to learn the language while creating, carrying out and analyzing surveys (learning by doing)

Just like with any other classroom material, you need to keep the pedagogical considerations in mind (e.g. learning objectives, authenticity, language focus, etc.).

**Skype**
Skype is a software application that allows users to make voice calls over the Internet. Skype in the Classroom is a free global community for teachers who want to break down the walls of their classroom and bring the world in. Using Skype, teachers and students can connect with other classrooms, bring experts in, or participate in virtual field trips. The Skype in the Classroom website makes it easy for teachers to find lessons, experts, and possible classroom collaborations. Check out the rest of this page to learn more about Skype in the Classroom. With Skype you can call all other Skype users for free, Call (both domestic and international) landlines and cell phones for a small fee.

Use of Skype in classroom
- Use it to collaborate with other classrooms.
- Use it to conduct expert interviews.
- Enable participation for students outside of the classroom.
- Use it for tutoring.
• Enable better collaboration for group projects and extracurricular activities.

**Prezi**
Prezi is presentation software that is web-based. They do have an education account that provides features and options that a standard account does not. The best way to describe Prezi is to think of it as 3D Infinite Canvas for creating a presentation.

Power Point is linear based presentation software. With Prezi you have the ability to Zoom In and Out, as well as rotate objects 360 degrees. The great thing about zooming in and out is it offers you the opportunity to focus on a certain aspect of an image, graph, or chart. It offers the ability to embed video and picture, as well as link to outside sources. Since it is a web-based application, it is easy to share with students and other teachers without having to have a certain kind of software.

**Google Drive**
Google Drive is a file storage and synchronization service developed by Google. Google Drive allows users to store files in the cloud, synchronize files across devices, and share files. In addition to a website, Google Drive offers apps with offline capabilities for Windows and macOS computers, and Android and iOS smartphones and tablets.

Google Drive encompasses Google Docs, Sheets and Slides, an office suite that permits collaborative editing of documents, spreadsheets, presentations, drawings, forms, and more. Files created and edited through the office suite are saved in Google Drive.

Uses of Google Drive
• Store data and files remotely. (Never lose learning materials).
• Develop collaborative group projects via Google Docs.
• Access and edit projects anywhere, anytime via mobile device.
• Publish learners’ works to offer them eLearning feedback and peer-to-peer support.
• Create Google drive self-guided courses for those who want to learn more.
• Offer immediate revisions and edits on learners’ assignments.

**Discussions**
Web 2.0 Tools are online software programs that allow users to do a number of different things. They can be used to teach curriculum content, store data, create/edit video, edit photos, collaborate and so much more. These programs are often free and are used by teachers, students, and sometimes parents, both in and out of the classroom, on a pretty regular basis.

Researcher exactly focused on Web 2.0 tools, features and their uses in teaching and learning of science subject. The web 2.0 tools will be enable to the student teachers to create awareness about ICT among Secondary students. The effective use of web 2.0 tools will be beneficial for the student teachers for improving the efficacy of teaching. the various web 2.0 tools will provide the appropriate atmosphere to develop self-learning, to interact with teacher, and develop research skill.

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ROLE OF SWAYAM AND SAKSHAT FOR CURRICULUM DEVELOPMENT

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Abstract:
There is no question we are facing many challenges in developing the curriculum in today's IT environment due to drastic changes in technology. There is dilemma what basic things we should keep in curriculum and what to accommodate. Now our country is going towards learning and taking initiatives for MOOC i.e. SWAYAM and SAKSHAT. SWAYAM is an instrument for self-actualization providing opportunities for a life-long learning. Learner can choose from hundreds of courses, virtually every course that is taught at the university / college / school level and these shall be offered by best of the teachers in India and elsewhere. If a student is studying in any college, he/she can transfer the credits earned by taking these courses into their academic record. SWAYAM presents a unique educational opportunity to expand the horizons of knowledge. An attempt has been made to explore the courses offered by SWAYAM and SAKSHAT with special reference to Library and Information Science for the benefit of students, researchers as well as for the faculty members keeping the view to aware about the courses run through SWAYAM and SAKSHAT.

Keywords: MOOC, Library and Information Science, online learning, e-learning

Introduction
Massive open online course (MOOC) is an online course aimed at unlimited participation and open access via the web. In addition to traditional course materials such as filmed lectures, readings, and problem sets, many MOOCs provide interactive user forums to support community interactions among students, professors, and teaching assistants. MOOCs are a recent and widely researched development in distance education which were first introduced in 2008 and emerged as a popular mode of learning in 2012. Early MOOCs often emphasized open-access features, such as open licensing of content, structure and learning goals, to promote the reuse and remixing of resources. Some later MOOCs use closed licenses for their course materials while maintaining free access for students.

Before the Digital Age, distance learning appeared in the form of correspondence courses in the 1890s-1920s, and later radio and television broadcast of courses and early forms of e-learning. Typically fewer than five percent of the students would complete a course. The 2000s saw changes in online, or e-learning and distance education, with increasing online presence, open learning opportunities, and the development of MOOCs.

The first MOOCs emerged from the open educational resources (OER) movement. The term MOOC was coined in 2008 by Dave Cormier of the University of Prince Edward Island.

India’s Initiatives on MOOCs Platform

Swayam
SWAYAM, (short for Study Webs of Active Learning for Young Aspiring Minds) MOOC platform by the Indian government, has ambitious goals. It is the one platform that would bind Indian higher education, both online and offline. It was first announced back in August 2014. It was part of the educational initiatives launched by the Prime Minister for India, Narendra Modi. SWAYAM is finally launched on August 15, 2016 — India’s Independence Day.

SWAYAM is a programme initiated by Government of India and designed to achieve the three cardinal principles of Education Policy viz., access, equity and quality. The objective of this effort is to take the best teaching learning resources to all, including the most disadvantaged. SWAYAM seeks to bridge the digital divide for students who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy.
This is done through an indigenous developed IT platform that facilitates hosting of all the courses, taught in classrooms from 9th class till post-graduation to be accessed by anyone, anywhere at any time. All the courses are interactive, prepared by the best teachers in the country and are available, free of cost to the residents in India. More than 1,000 specially chosen faculty and teachers from across the Country have participated in preparing these courses.

The courses hosted on SWAYAM will be in 4 quadrants – (1) video lecture, (2) specially prepared reading material that can be downloaded/printed (3) self-assessment tests through tests and quizzes and (4) an online discussion forum for clearing the doubts. Steps have been taken to enrich the learning experience by using audio-video and multi-media and state of the art pedagogy / technology. In order to ensure best quality content are produced and delivered, seven National Coordinators have been appointed: They are NPTEL for engineering, UGC for post-graduation education, CEC for under-graduate education, NCERT & NIOS for school education, IGNOU for out of the school students and IIMB for management studies.

Courses delivered through SWAYAM are available free of cost to the learners, however students wanting certifications shall be registered, shall be offered a certificate on successful completion of the course, with a little fee. At the end of each course, there will be an assessment of the student through proctored examination and the marks/grades secured in this exam could be transferred to the academic record of the students. UGC has already issued the UGC (Credit Framework for online learning courses through SWAYAM) Regulation 2016 advising the Universities to identify courses where credits can be transferred on to the academic record of the students for courses done on SWAYAM.

SWAYAM platform is indigenously developed by Ministry of Human Resource Development (MHRD) and All India Council for Technical Education (AICTE) with the help of Microsoft and would be ultimately capable of hosting 2000 courses and 80000 hours of learning: covering school, under-graduate, post-graduate, engineering, law and other professional courses.
No university shall refuse any student for credit mobility for the courses earned through MOOCs. UGC issued (credit framework for online learning courses through SWAYAM) Regulation on 11.3. 2016 and given “Guidelines for Development and Implementation of Massive Open Online Courses (MOOCs).” These documents contain a lot of details like definition of a course, recording format for videos, how much headroom to maintain in each video (hint: 6–8%), how the credit transfer would work, and so on.

Homepage of SWAYAM (https://swayam.gov.in)

Courses:
SWAYAM is offering various courses at different levels of education. The homepage is showing the courses in various subjects and number of courses.

Table 1. Number of courses on different levels

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Levels</th>
<th>No. of Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>School</td>
<td>47</td>
</tr>
<tr>
<td>2</td>
<td>Certificate</td>
<td>17</td>
</tr>
<tr>
<td>3</td>
<td>Diploma</td>
<td>29</td>
</tr>
<tr>
<td>4</td>
<td>Undergraduate</td>
<td>589</td>
</tr>
<tr>
<td>5</td>
<td>Postgraduate</td>
<td>307</td>
</tr>
</tbody>
</table>
Table 2. Number of courses by subject categories

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Subject categories</th>
<th>No. of Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Engineering</td>
<td>655</td>
</tr>
<tr>
<td>2</td>
<td>Science</td>
<td>91</td>
</tr>
<tr>
<td>3</td>
<td>Humanities</td>
<td>72</td>
</tr>
<tr>
<td>4</td>
<td>Management</td>
<td>32</td>
</tr>
<tr>
<td>5</td>
<td>Language</td>
<td>20</td>
</tr>
<tr>
<td>6</td>
<td>Mathematics</td>
<td>11</td>
</tr>
<tr>
<td>7</td>
<td>Commerce</td>
<td>16</td>
</tr>
<tr>
<td>8</td>
<td>Arts and Recreation</td>
<td>129</td>
</tr>
<tr>
<td>9</td>
<td>General</td>
<td>12</td>
</tr>
<tr>
<td>10</td>
<td>Library</td>
<td>12</td>
</tr>
<tr>
<td>11</td>
<td>Education</td>
<td>13</td>
</tr>
</tbody>
</table>

Postgraduate Courses
With a graduation degree a learner can take admission into a regular university or an open university. Thereafter, SWAYAM will offer courses of choice based on the eligibility of the learner. Based on the University where the learner has taken admission SWAYAM will provide the flexibility of Choice Based Credit Transfer System (CBCS) for the course enrolled. Completion of courses and earning of all credits through SWAYAM will provide the learner with a Post-Graduation Degree from the university that the learner belongs to. After successfully completing a post-graduation degree a learner can take admission into another post-graduation program or go for research on a subject of their choice.

Faculty
SWAYAM is the digital platform for distance learning where distinguished faculties offer best quality content for students from school till post-graduation. The courses on SWAYAM are produced and delivered by faculties from NPTEL for engineering, UGC for post-graduation education, CEC for under-graduate education, NCERT & NIOS for school education, IGNOU for out of the school students and IIMB for management studies.

Library and Information Science Courses on SWAYAM for MOOC Platform
Table 3. List of LIS Courses on SWAYAM

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Name of the LIS Course</th>
<th>Co-ordinator</th>
<th>Course Duration (in days)</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Information and Communication Technology for Libraries</td>
<td>Usha Munshi</td>
<td>13</td>
<td>• 101 Tutorials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 37 Test</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 15 Assignments</td>
</tr>
<tr>
<td>2</td>
<td>Information Sources and Library Services</td>
<td>Archana Shukla</td>
<td>122</td>
<td>• 18 Tutorials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 9 Test</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 0 Assignment</td>
</tr>
<tr>
<td>3</td>
<td>Library Automation and Digitisation</td>
<td>Uma Kanjilal</td>
<td>90</td>
<td>• 49 Tutorials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 14 Test</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 0 Assignment</td>
</tr>
<tr>
<td>4</td>
<td>Management of Libraries and Information Centres &amp; Knowledge Centres</td>
<td>Dinesh Gupta</td>
<td>103</td>
<td>• 92 Tutorials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 31 Test</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 15 Assignments</td>
</tr>
<tr>
<td>5</td>
<td>Scientometrics</td>
<td>Ravichandra I K Rao</td>
<td>71</td>
<td>• 43 Tutorials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 13 Test</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 8 Assignments</td>
</tr>
<tr>
<td>6</td>
<td>Digital Libraries</td>
<td>Jagdish Arora</td>
<td>105</td>
<td>• 90 Tutorials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 39 Test</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 15 Assignments</td>
</tr>
<tr>
<td>7</td>
<td>Knowledge Society</td>
<td>KS Raghavan</td>
<td>110</td>
<td>• 61 Tutorials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 15 Test</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 15 Assignments</td>
</tr>
<tr>
<td>8</td>
<td>Information Storage and Retrieval</td>
<td>Devika P Madalli</td>
<td>110</td>
<td>• 53 Tutorials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 15 Test</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 11 Assignments</td>
</tr>
<tr>
<td>9</td>
<td>Information Sources System and Services</td>
<td>Renu Arora</td>
<td>95</td>
<td>• 101 Tutorials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 36 Test</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 15 Assignments</td>
</tr>
<tr>
<td>10</td>
<td>Management of Libraries and Information Centres &amp; Knowledge Centres</td>
<td>Dinesh Gupta</td>
<td>100</td>
<td>• 93 Tutorials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 31 Test</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 15 Assignments</td>
</tr>
<tr>
<td>11</td>
<td>Advertising and Public Relations</td>
<td>Dr. K.S. Kusuma</td>
<td>94</td>
<td>• 266 Tutorials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 19 Test</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 2 Assignments</td>
</tr>
<tr>
<td>12</td>
<td>Digital Library</td>
<td>Jagdish Arora</td>
<td>100</td>
<td>• 92 Tutorials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 30 Test</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• 15 Assignments</td>
</tr>
</tbody>
</table>
SAKSHAT: A One Top Education Portal

The content development task for ‘SAKSHAT’ was looked after by the Content Advisory Committee (CAC) for the respective subject, which consisted of representatives from educational institutions like IGNOU, Delhi University, Kendriya Vidyalaya Sangthan (KVS), Navodyaya Vidyalaya Sangthan (NVS), National Institute of Open Schooling (NIOS) and National Council for Educational Research and Training (NCERT) and prominent academicians in the field. In addition, some NGOs had also provided the contents developed by them free of cost for this portal.

There are two institution of SAKSHAT
1. School Education and Literacy and
2. Higher Education

Table 4. Number of courses on different levels by SWAYAM and SAKSHAT

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Courses On Different Levels</th>
<th>SWAYAM</th>
<th>SAKSHAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>school</td>
<td>47</td>
<td>06</td>
</tr>
<tr>
<td>2</td>
<td>certificate</td>
<td>17</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Diploma</td>
<td>29</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>Under-graduate</td>
<td>589</td>
<td>20</td>
</tr>
<tr>
<td>5</td>
<td>Post –graduate</td>
<td>307</td>
<td>20</td>
</tr>
</tbody>
</table>
Table 5. Number of courses on different levels

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Courses on Different Levels</th>
<th>SAKSHAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>School Education And Literacy</td>
<td>140</td>
</tr>
<tr>
<td>2</td>
<td>Higher Education</td>
<td>06</td>
</tr>
</tbody>
</table>

Table 6. Number of courses by subject categories in SAKSHAT

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Courses By Subject Categories.</th>
<th>SAKSHAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Agriculture and architecture</td>
<td>03</td>
</tr>
<tr>
<td>2</td>
<td>Biological sciences &amp; bioengineering</td>
<td>27</td>
</tr>
<tr>
<td>3</td>
<td>Civil &amp; aerospace engineering</td>
<td>50</td>
</tr>
<tr>
<td>4</td>
<td>Computer science and engineering</td>
<td>71</td>
</tr>
<tr>
<td>5</td>
<td>Electrical, electronic and communications</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>engineering</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Humanities, business and social sciences</td>
<td>62</td>
</tr>
<tr>
<td>7</td>
<td>Management studies</td>
<td>37</td>
</tr>
<tr>
<td>8</td>
<td>Mathematics and basic sciences</td>
<td>59</td>
</tr>
<tr>
<td>9</td>
<td>Mathematical, chemical and metallurgical</td>
<td>103</td>
</tr>
<tr>
<td></td>
<td>engineering</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Multidisciplinary courses</td>
<td>16</td>
</tr>
<tr>
<td>11</td>
<td>Library Automation</td>
<td>01</td>
</tr>
</tbody>
</table>

Table 7. E-content creation by ongoing project on SAKSHAT

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>E-content creation</th>
<th>Project investigator</th>
<th>Anchor institute</th>
<th>Project URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Non technical</td>
<td>Prof. Ramesh Kumar</td>
<td>Institute of Lifelong Learning</td>
<td><a href="http://www.illl.du.ac.in">www.illl.du.ac.in</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gautam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Digital Environment</td>
<td>Prof. Ravi Poovaiah</td>
<td>IIT Bombay, NID Ahmadabad, NID</td>
<td><a href="http://www.dsource.in">www.dsource.in</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Gandhinagar, NID Bangalore and IIT Guwahati</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Law subject</td>
<td>Prof. M. Sridhar</td>
<td>National Academy of Legal Studies &amp;</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acharyulu</td>
<td>Research, University of Law.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Fashion design and</td>
<td>Prof. R. Russel</td>
<td>IIT Bombay, NID Ahmadabad, NID</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>technology</td>
<td>Timothy</td>
<td>Gandhinagar, NID Bangalore and IIT Guwahati</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Academic courses</td>
<td>Prof. (Dr.) Deepali</td>
<td>IIT Bombay</td>
<td><a href="http://www.ecitem.co.in">www.ecitem.co.in</a></td>
</tr>
<tr>
<td></td>
<td>and professionals</td>
<td>Singh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Skill development</td>
<td>Dr. Jayashree Shinde</td>
<td>Department of educational technology,</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SNDT, Women's University, Mumbai</td>
<td></td>
</tr>
</tbody>
</table>
Self teaching and engineering topics
V. Srinivasa Chakravarthy
IIT, Madras

Generation and sharing laboratory
Prof. Shishir k. Jha
Indian Institute of Technology Bombay

E-training environment
Dr. P. Sivakumar
National Institute of Technical Teachers Training and Research, Chennai

Mathematical foundation
Prof. Ambuja Salgaonka
Keshav Memorial Institute of Technology, Hyderabad and Department of Computer Science, University of Mumbai (UDCS)

Library automation
Prof. Uma Kanjilal
Indira Gandhi National Open University, New Delhi

Quantum and nano computing virtual center
Dr. Vishal Sahni
DEI University – IIT Kanpur – IIT Delhi – IIT Madras

Technical video lectures
Prof. Mangala Sunder Krishnan
Indian Institute of Technology Madras

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Facilities SWAYAM</th>
<th>Facilities SAKSHAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Online admissions</td>
<td>Network available</td>
</tr>
<tr>
<td>2</td>
<td>Notes, book available</td>
<td>Online lectures</td>
</tr>
<tr>
<td>3</td>
<td>Online learning, videos</td>
<td>Scholarship</td>
</tr>
<tr>
<td>4</td>
<td>self-assessment tests through tests</td>
<td>Education lone</td>
</tr>
<tr>
<td>5</td>
<td>an online discussion forum for clearing the doubt</td>
<td>supporting the existing institution</td>
</tr>
<tr>
<td>6</td>
<td>Verified certificate after successful completion of courses and qualifying examination.</td>
<td>Access to e-recourses</td>
</tr>
<tr>
<td>7</td>
<td>Institute supporting</td>
<td>Interactive multimedia e-content</td>
</tr>
</tbody>
</table>

3. Challenges and criticisms
The MOOC Guide suggests five possible challenges for MOOCs:
- Relying on user-generated content can create a chaotic learning environment.
- Digital literacy is necessary to make use of the online materials.
- The time and effort required from participants may exceed what students are willing to commit to a free online course.
• Once the course is released, content will be reshaped and reinterpreted by the massive student body, making the course trajectory difficult for instructors to control.
• Participants must self-regulate and set their own goals.

4. Conclusion
• The development of e-learning using information and communication technology and its ever growing usage has given opportunities to educators to extend teaching material even outside their class rooms. It is given the facilities to students with handy teaching tools. India Government has taken number of initiatives of e-content development projects under NME-ICT for this purpose.
• It is concluded that the students as well as faculty members of library and information science should use the e-content available in SWAYAM for quality & effective learning and teaching.
• It is an opportunity to educators to expand teaching materials outside the class rooms. It is give the facilities to students with handy teaching tools.
• The courses available are SWAYAM and SAKSHAT are prepared and refined by pioneers in Library and Information science at national level. The courses are related with recent trends in LIS and hence while designing a course members of curriculum development should consider the facets of these online courses.

Faculty members who have prepared and involved in these online course can be invited to deliver a talk by LIS schools.

References:
Introduction
The purpose of this study was to evaluate the “Numismatic content in history” curriculum offers higher education with focus on the goals of the curriculum and students thought. The main aim of numismatic curriculum is to help the students learn to identify the coins, different eras, and kings, metals, mints etc., get knowledge about some of the greatest and most influential people from various time periods. Numismatics is very important part of history so, history (as well as Numismatics) is as important as any other subject, and should not be disregarded in any way. Numismatics helps students understand the specific name of the king who ruled at various times in different part of country. There are many reasons to study of Numismatics; Coins are the medium of exchange, can only be seen in a developed society with centralized administration. It will help to find out the genealogy of the rulers, who issued it. Also will help to understand the metal technology of the particular period. That is why numismatics is developing along with history.

There are many ways in which coins can be historical sources. One is their distribution. For research and study the designs on coins can also tell us about the religious and political beliefs of a particular civilization.

The Curriculum of Numismatics is helps us to reconstruct history, it tell us about the kings that ruled a country over a particular time and tell us about the heritage of the country the study of coins help us in many ways in political administrative geographical social and economic spheres.

Numismatics is the study/ collection of currency (coins, banknotes, or money in some other form like beads, tokens, and related objects). Historians use these to understand the past. A lot of people collect coins/banknotes and exchange them as well with other collectors. Some buy them for investment purposes

Archaeological sources include
(a) Pottery items found through exploration and excavation and (b) coins while literary sources cover epigraphy and paleography. These are original sources of history.

Statement of Problem
Evaluation of Numismatics Curriculum Higher Secondary Education: Prospects

Definitions
Evaluation: The making of a judgment about the amount, number, or value of something; assessment. - oxforddictionaries.com

Numismatics: The study or collecting of coins, medals, paper money etc. - dictionary.com

Curriculum: The subjects comprising a course of study in a school or college. - oxforddictionaries.com

Higher Secondary Students: The students who is studying at the age group between 16 and 18. Simply we can say 'adolescent' student.  

Prospects: Chances or opportunities for success or wealth.  

The objectives of this paper are:
1) To analyze the higher secondary history textbook analysis with the respect to numismatics content.
2) To study the numismatics concepts include the content of higher secondary history textbooks.
3) To find out the information about related Numismatic through the different resources/documents.
To find out from the stakeholders what they expect from higher education regarding Numismatics.

To explain the different prospects of Numismatics education.

**Best practices**

Asma, K. and Muhammad, S.A. (2011) told in *A short history of the coins of the subcontinent*, Coinage in the subcontinent originated as early as the sixth century BC. The first coins of India were minted around the sixth century BC by the Mahajanapadas rulers of the Indo-Gangetic Plain (600 BC to 300 BC), before the invasion of Alexander in the fourth century BC. The coins of this period are called punch marked coins or *Pana*, with several symbols punched on them. These coins were made of silver, had a standard weight but irregular shapes. The coins were minted by cutting up silver bars and then making the correct weight by cutting the edges of the coin.

Srinivasan, C. (2013) *A Study on Currency and Coinage Circulation in India*, written the objectives of this study

1. To analyze the issues and circulation of coins and currency in India.
2. To analyze the respondents attitude towards on the circulation of coins and currency in the study area.

The study of coins and related objects is called Numismatics and that of banknotes is called Notaphily. A coin is a piece of metal or other material bearing distinctive marking to authorize its use as money and a banknote is a promissory bill. At the infancy of human civilization, people had to produce or procure their necessities by dint of their own labor.

Stephanie, W.J. & Jeffrey, F. (2011), *Coins in Context: Local Economy, Value and Practice on the East African Swahili Coast*, studied Coinage occupies an unusual position in archaeological research. Thriving scholarship on numismatics and monetary history ensures that the objects themselves are well-studied, often seen as an indication of chronology and of stylistic and commercial links. Yet coins might also be analyzed as artifacts, and explored as part of the symbolic world of material culture through which archaeologists understand meaning and value in past societies.

Adkins, G. (2017) explained in *Education’s Role in Developing the Future of the Coin Hobby*, Education will be the key component if we are to create a renaissance in coinage and a future for our industry and the collecting community. Teaching young people the historical importance of money in society, and its role in the arts, sciences, history and literature may be the key to promote money’s role and importance for current and future generations.

You may be wondering what all this has to do with the future of money, the U.S. Mints’ role and why the American Numismatic Association is so interested in the aforementioned issues? What do all these technology advances, cyber currencies and aging demographics have to do with engaging a younger generation to step up and support the collecting legacy that was nurtured by their fathers and grandfathers? It is all about the money, as told to earlier, and teaching our youth, at both primary and secondary levels, the importance of understanding the history and evolution of money, what money really is, how it is used in commerce, and how it contributed to the rise or fall of societies and governments. Money is merely an afterthought in today’s world. Paper currency and coinage play a minor role in daily transactions.

**Research Design**

The present study is descriptive research which includes survey; therefore researcher used the survey to collect the data.

**Sample Design**

The purposive sampling method was used; the selection of higher secondary school and random method was used for the selection of the higher secondary school students. The purposively stakeholders was choose.

**Sample**

The purposively at twenty-two higher secondary schools from Kolhapur city was selected and the sample from the present study. In Kolhapur city selected two higher secondary schools for this study. In that XI and XII classes selected for the research. Total students 1236 are there in each class.
Data Gathering Tools
For the purpose of the study the following data gathering tools were prepared and used in consultation with experts keeping the objective of the study in mind. These research tools were: Questionnaire, Interview.

Procedure for Data Collection
The Quantitative data was collected from students with the help of a questionnaire. The qualitative data were collected from stakeholder with the help of an interview schedule.

Analysis and Interpretation of the Data
The analysis of data for different group was done as per the objective. For the study collected data was treated, scored and analyzed by a computer using a statistical technique which helped in objective interpretation, percentage computed.

The qualitative data which collected from stakeholders through the interview what they expect from higher education regarding numismatics education was qualitatively analyzed.

Objectives no.1
To analyze the higher secondary history textbook analysis with the respect to numismatics content.
This objective is a process objective, in the std-XI and XII text-book related all numismatics information given below in the table.

| Table No.1 |
| To analyze XI and XII standard history text-books based with reference to Numismatics. |

<table>
<thead>
<tr>
<th>Standard</th>
<th>Lesson No</th>
<th>Lesson Name</th>
<th>Related Numismatics’ Information (Dynasty, Types Of Coins, Etc.)</th>
<th>Coin Metals</th>
</tr>
</thead>
<tbody>
<tr>
<td>11th</td>
<td>1.</td>
<td>History Of Maharashtra</td>
<td>Satawahanah, Kolhapr, Paithan, Karad, Nashik Etc.</td>
<td>Copper, Potin</td>
</tr>
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<td></td>
<td>2. b.</td>
<td>C. Marath Hon, Shivrai</td>
<td>Gold, Copper</td>
<td></td>
</tr>
</tbody>
</table>
Findings: Based on Numismatics analyzed XI and XII standard history textbooks. The content of related Numismatics is available in XI and XII standard history textbooks.

Objectives no. 2
To study the numismatics concepts include the content of higher secondary history textbooks.

Findings: Each educational level available information related numismatics in history curriculum. (i.e. basic Numismatics (barter system) means ANCIENT to current /REPUBLIC INDIAN coins information in available in the history curriculum.)

Now government also aware about history so, government focus on history curriculum of higher secondary education in that given specific topics on Numismatics and its opportunities in future for students.

Objectives no.3
To find out the information about related Numismatic through the different resources/documents.
For this objectives used many resources for gathering information about numismatics. All educational level textbooks, the primary school curriculum to higher education, coins catalogues for about coins and its knowledge, documents and references of Numismatics about ancient barter system and how was developed day by day.

Given below related numismatic resources/documents.
Paul, S. Secret Marks on the Coins of the Bengal Presidency, University Of Bengal.
Chittle, Shripad (2016) Nanyancha Sivad, E-Book Nachiket Prakashan, Nagapur retrieved from https://books.google.co.in

Internet websites:
http://www.bu.edu/research/articles/ancient-india-coins-pankaj-tandon
https://coinweek.com/education/educations-role-developing-future-coin-hobby
http://www.bidinside.com
http://www.numismaticnews.net/article/ana_creates_numismatic_job_board
https://www.hindustantimes.com

Objectives no.4
To find out from the stakeholders what they expect from higher education regarding Numismatics.

Qualitative analysis of data obtained through interview of stakeholders:
The researcher conducted the interview in the structured form. These interviews were conducted to collect qualitative data from stakeholders ‘What they expect from higher education regarding Numismatics studies.’ According to stakeholders level of Numismatics knowledge should be increase by education; the present students are the future citizens of the Nation. So they should know about what’s the history of coin, its importance and our national heritage, and try to enrich historical heritage.

“Numismatics study is providing important information past to present and develop our future.” “Students knowing about coins components-kings name, era, different legends, metals, mints, shapes etc.” “Student learns critical observation from studying coins.” “Numismatics teach us, how has an applied the knowledge related coin in daily life.”

Numismatist, as auctioneer, coin dealer, professor, philosopher, historian, archeologist, ancient language trainer etc. after completing higher education these opportunities to beneficial for the student. All stakeholders suggest the activities for enhance the students’ knowledge about numismatics and choose the interest area in numismatics:
1. “Numismatics week.”
2. “Visit to historical places.”
3. “Project related to available coins information our village, city, district, state, and nation.”
4. “Show the power point presentation related Numismatics.”
5. “Adapt the new, creative and collaborative Numismatics teaching methods.”
6. “Visits to museums, coin collection places, Numismatics books and coin library.”
7. “Inspire to Numismatics research study.”
8. “Collection of Numismatics rear things e.g. coins, stamps, notes, coin pictures, coins information, books etc.
9. “Exhibition of coins collection.”

**Objectives no.5**

To explain the different prospects of Numismatics education. Students will be having more opportunity after completing the Numismatics study. i.e Numismatist, simultaneously with the business, like as a hobby and lifetime investment purpose we can do coin collection, in archeology department have many opportunities for Numismatic with satisfy salary, indirectly we will help to save our national heritage through the coins as a proof.

Numismatist/ Coin Enthusiast, as auctioneer, professor, philosoper, historian, archeologist, Numismatic Grader, Paper Money Research Assistant, Paper Money Grader, Metal Forming Machine Operator Supervisor, Numismatics Senior Curator. Coin dealers, Investment brokers, Researchers, Coin museum staff, Writers and columnists, Coin organization staff, Auction house staff, Mint staff, Numismatic Book Writer, Language trainer/translator (for different ancient languages),

**Easy** (Coins are easily obtained and cheap)
- Aramaic, Pahlavi, Kharosthi, Early Chinese, Brahmi/Gupta, Miscellaneous Indian scripts

**Medium** (Available, but harder to find, or more expensive)
- Sogdian, Phoenician, Punic, Iberian, Persis script

**Hard** (Very rare, very expensive)
- Heiratic, Heiroglyphs, Cuneiform, Runic

- [www.coincommunity.com](http://www.coincommunity.com)

Users/Admin/Downloads/NumismatistJobDescriptionFINAL.pdf
https://coins.thefuntimesguide.com/job_hunting-2
[https://www.shiksha.com](https://www.shiksha.com)
Conclusion
The results of the study reveal that the curriculum of history was influenced by the numismatics of higher education. Based on the results of the current study, history education alternatives for the areas of specialization, and improving overall the quality of numismatics in higher education need to be considered.
The higher educational students can develop with the different information and the same level of knowledge of numismatics by history curriculum. Numismatics study is very useful to all level of education with the great future opportunities. An old coin (or currency) is a window to history. And now it makes for good investment, too

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COURSEWARE BASED CURRICULUM DEVELOPMENT MODEL FOR HIGHER EDUCATION WITH REFERENCE TO KNOWLEDGE SOCIETY

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Abstract:

Today’s society is transforming tremendously. This transformation is not going to take place all of a sudden. The voyage of societies started from the Nomadic Society to the knowledge Society. In the knowledge Society most of the people are working in the field of creating and sharing the knowledge and in this process e-resources are very helpful. Hence there is challenge before the Higher Education field to train Students in such a way to meet the needs of the knowledge society. Therefore there is requirement of Courseware based Curriculum Development Model. Courseware means educational material intended as kits for teachers or trainers or as tutorials for students, usually packaged for use with a computer. Courseware reduce the cost of instruction, time of instruction as well as it increase the effectiveness of instruction and student knowledge performance. Knowledge society’s main indication is development in the field of ICT and hence the curriculum should comprise of self directed learning, use of online learning, e-learning etc. Therefore the curriculum developers must consider the courseware as an important part of the curriculum development.

Hence present study is undertaken with the three objectives these are: to study the role of ICT in knowledge dissemination, to suggest courseware based curriculum development model for higher education with reference to knowledge society and to give suggestions to concerned for the implementation of the Courseware based curriculum development model for higher education with reference to knowledge society. Thus through present study the Courseware based Curriculum Development model is given considering the rapid developments in the area of Information and Communication Technology.

Key Words: Courseware, Curriculum Model, Higher Education, Knowledge Society

Introduction:

Today’s society is transforming tremendously. This transformation is not going to take place all of a sudden. The voyage of societies started from the Nomadic Society. In the Nomadic society most people were working as shepherds. Then the next society emerged as agricultural society. In this society most of the people belonged to agricultural occupation. After this, the industrial society is emerged. This was followed by information and communication society and this society transforming into the knowledge society, where most of the people are working in the field of creating and sharing the knowledge and in this process e-resources (e.g. open educational soft ware’s, blog, forums etc.) are very helpful. Today's student are also using these technologies very effectively. Hence there is challenge before the Higher Education field to train students in such a way to meet the needs of the knowledge society i.e. awareness and effective use of e-learning resources. Therefore with the help of Courseware based curriculum model students will be equipped for effective use of e-resources for research and learning. So they can able to be the global citizens of the knowledge society.

Curriculum is an important part of the education system. It encompasses detail description of learning experiences given to students throughout the course. The learning experiences are influenced by political, social, national, international issues and as per requirement of these areas the curriculum is developed. However now is the time that Curriculum developer should consider the rapid developments in the area of Information and Communication Technology, while framing the curriculum for higher education and make available curriculum transaction mode 24/7. Hence there is need of Courseware based Curriculum Development model for Higher Education.

The meaning of Courseware according to whatls.com (1999-2013) is educational material intended as kits for teachers or trainers or as tutorials for students, usually packaged for use with a computer. According to Kovalchick & Kara Dowson (2005). Courseware encompass both content and pedagogy. After studying these definitions for present study Courseware based Curriculum development model for higher education means the process of
systematic designing, developing, evaluating, and managing the Curriculum of higher education plus computer based software on content and andragogy of e-learning in the form of tutoring, coaching, training, drill, exercise, scenario based activities, that are motivating the students for the reflective thinking etc. According to Dictionary.com (2013) Instructional Courseware means computer based educational material in which information or knowledge is imparted in the form of tutoring, coaching, training, drill, exercise, indoctrination or command. Today’s education system is based on constructivist approach. Constructivist means student has innate capacity to construct his own knowledge and for construction of knowledge teacher should have to provide guidance and facilities to the students. However in this process of knowledge construction electronic technologies especially computer, mobile etc. technology is very helpful. So with the help of technologies such as Courseware, Multimedia etc. the teachers can be able to facilitate learning of the students and able to shape the knowledge society. Therefore present study is undertaken with the following objectives:

(a) To study the role of ICT in knowledge dissemination.
(b) To suggest courseware based curriculum development model for higher education with reference to knowledge society.
(c) To give suggestions to the concerned for the implementation of the curriculum development model for higher education with reference to knowledge society.

In the light of above objectives present study is undertaken.

The first objective of the study is to study the role of ICT in knowledge dissemination hence review of related literature is undertaken as follows:

Ikka Tuomi (2001). discussed about Emerging Research Topics on Knowledge Society and how the idea of information society was introduced as an urgent attempt to catch-up with developments occurring in other parts of the world. He further discusses about the rapid growth of the Internet and wireless communications which was a surprise to policymakers and Multimedia content production, was expected to be one of the main drivers for information society development and has remained a relatively minor part of economy. The growth of tele work has been much slower than predicted. According to Kuppinen Timo (2004). many knowledge Society indicators show that there are rapid developments in the area of Information and Communication Technology. Further they also discuss about e-learning and skills such as self directed learning, use of online e-learning for work – related learning, use of e-learning for work related training, participation in work-related training provided by the employer. Kovalchick & Kara Dawson (2005). discusses about the Advanced Distributed Learning’s (ADL) claims regarding the courseware, i.e. ‘Courseware reduce the cost of instruction by 30-60 percent and time of instruction by 20-40 percent as well as it increase the effectiveness of instruction by 30 percent and student knowledge performance by 10-30 percent. According to Tobias Müller - Prothmann (2006). networks are effective environments for the sharing of personal knowledge, there is a lack of systematic methods for practical use to identify knowledge communities and networks, to analyze their structure and to take measures to actively support them. Here, the potential method of social network analysis (SNA) comes to play an important role as an effective knowledge management (KM) tool. Social network analysis provides basic approaches as a method for expert localization and knowledge transfer as well as models of interpretations and ways of interventions. Thus from above reviews it seems that knowledge society’s main indication is development in the field of ICT. Nygaard, Claus; Hojlt, Thomas; Hermansen, Mads (2008).these writers focused on to inspire curriculum developers to centre their efforts on the learning processes of students. It presents a learning-based paradigm for higher education and demonstrates the close relationship between curriculum development and students' learning processes. This article focuses on role of higher education in the knowledge society and contextual learning which is useful for foundation of curriculum development. According to Noawanit Songkrama, Jintavee Khlaibang Bundit Puthasaranee Maneerat Likhitdamrongkiatd (2014). E-learning can be divided into two systems according to the context of
education: (1) e-Learning system in Blended Learning Environment (BLE) that combines the benefit of classroom and online learning, and (2) e-Learning in Virtual Learning Environment (VLE) that focuses on self-paced learning. Both systems of e-Learning can be appropriately applied to the context of higher education. According to Cynthia Luna Scott (2015), today’s students are active learners rather than spectators. They view themselves as participants in creating information and new ideas. Accordingly, twenty-first century instruction is based on three pedagogical principles – personalization, participation and productivity (McLoughlin and Lee, 2008a). This framework allows learning through authentic real-world contexts, carrying out projects from beginning to end, and solving problems as they arise, all of which constitute powerful learning strategies. Edwin R. de los Reyes (2017). Courseware curriculum helps for outcome based education. Through this type of curriculum all the teachers and students time is saved and they can able to utilize their time in more productive activities regarding the learning. Thus from these review of literature it is clear that Information and Communication Technology area is rapidly developed. Knowledge society’s main indication is development in the field of ICT. Curriculum should comprised of self directed learning, use of online e-learning for work – related learning, use of e-learning for work related training. For identifying interest groups on network there must be systematically growth of network. Courseware reduce the cost of instruction, time of instruction as well as it increase the effectiveness of instruction and student knowledge performance. Above review of related literature underscores the need of the Courseware based curriculum development model for higher education. Therefore the second objective of the study i.e. courseware based curriculum development model for higher education with reference to knowledge society is presented in figure no.1.

**Figure no.1**: Courseware based Curriculum Development Model for Higher Education with Reference to Knowledge Society

From Figure no.1 it is clear that there are ten components of the Courseware based Curriculum Development Model for Higher Education with Reference to Knowledge Society. These are discussed as follows:

1. **Input**: Input is the first component of the model. While giving the input for the model one has to analyse the society's and learners needs. This curriculum development model belongs to higher education hence the adult learners are the input for the curriculum.

2. **Consideration of Society's, Learners Needs and Self Responsibilities of the Learning**: Society requires different types of human resources hence in this context society's requirements should be considered. As well as students needs should be analyzed and being adults the self responsibility of own learning should be considered while framing the curriculum. Most of the learning experiences should be activity based and on reflective level, self directed and through it students shall given Self responsibilities of the learning. Blended mode or flip mode of learning shall be adopted as well as scenario based learning, virtual learning activities shall be comprised in the
curriculum. Teachers role will be as a facilitator or manger for students and as a knowledge professional he shall involved in the e-content development.

3 **Designing/Planning of the Courseware based Curriculum:** While Designing/Planning the components of the curriculum such as content of the curriculum, objectives of the curriculum, teaching strategies, learning activities, resources etc. should be mingled with Information and Communication Technology and which should be on uboutiques mode. Because today's learners use mobile, laptop or desktop for learning. During the development of the curriculum the activities comprised in courseware such as presentation of the content, tutoring, coaching, training, scenario based learning, activities related to problem solving, reflective thinking, exercise, indoctrination or command should be clearly mentioned.

4 **Development of the Courseware based Curriculum:** Development stage comprises the preparation of Courseware on the syllabus of the curriculum. The expert team shall provide the structure required for Courseware and according to that the learning package should be prepared on this stage considering the adult learners needs. On-line learning resources must be provided for the students through this courseware.

5 **Pilot Study on a Small Group:** Developed courseware based curriculum shall be implemented on small scale and pilot study should be conducted of the Courseware based curriculum.

6 **Feedback:** Through the pilot study the curriculum developers can get the feedback and according to that the revision should be undertaken.

7 **Revision:** If necessary the revision regarding Designing/Planning of the Courseware based Curriculum and Development of the Courseware based Curriculum shall be done on the basis of the study.

8 **Evaluation:** On the large scale the Courseware based curriculum shall be implemented and its usefulness shall be evaluated.

9 **Output:** The outcome shall be checked on that the adult learners having the capacity of self learning and able to create disseminate the knowledge.

10 **Citizens Required for Knowledge Society:** The adult learners will become skillful knowledge professionals required by the knowledge society.

Thus the second objective of the study is fulfilled and the **third objective of the study i.e. to give suggestions to the concerned for the implementation of the curriculum development model for higher education with reference to knowledge society.** For the fulfillment of this objective following suggestions are given to teachers, students, and educationist:

3. While developing the Courseware based curriculum leaning activities must be student centered.
4. Self learning responsibility should be given on the shoulders of the learner.
5. Courseware based curriculum should be user friendly and useful for uboutiques.
6. Activities regarding constructivist approach shall be incorporated in the curriculum.
7. Major emphasis should be given that students should learn on their self and be prepared for discussion in the classroom whatever they have learnt.

**Conclusion:**

There is challenge before the Higher Education field to train Students in such a way to meet the needs of the knowledge society. Therefore there is requirement of Courseware based Curriculum Development Model. Courseware means educational material intended as kits for teachers or trainers or as tutorials for students, usually packaged for use with a computer. Courseware reduce the cost of instruction, time of instruction as well as it increase the effectiveness of instruction and student knowledge performance. Knowledge society’s main indication is development in the field of ICT and hence the curriculum should comprise of course + software, self directed learning, use of online learning, e-learning etc. Therefore the curriculum developer must consider the courseware as an important part of curriculum development.
References:


BLENDED LEARNING: AN INNOVATIVE CURRICULUM TRANSACTION MODE FOR QUALITY TEACHER EDUCATION

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Introduction:
Blended Learning (b-Learning or hybrid Learning) consists of the combination of e-Learning and traditional education approach. Blended learning combines online learning with face-to-face learning. The goal of blended learning is to provide the most ancient and elective learning experience by combining different learning environments. B-Learning stands in the forefront in respect of interactivity with target learner group, enriching learning process and integration of technology into education. Blended learning is not a single method of learning, nor is it a separate alternative to e-learning or face-to-face learning methods. It refers to any style of learning that combines different learning methods. Many teachers were doing blended learning before the term existed. Something as simple as using a movie to supplement classroom discussion is blended learning. E-learning and face-to-face learning can be combined into one lesson just as reading; writing; speaking, listening can be used together in one lesson.

Basic Characteristics of Blended Learning
These characteristic reflect the values of 21st century education that are providing a new way of learning and teaching, teaching how to learn creating digital learners, being more economical, focusing on technology and communication, improving project-based learning, and improving teaching process.

Live Elements of Blended Learning Process
(a) Live Events: Synchronous instructor-led learning events in which all learners participate at the same time, such as in a live “virtual classroom”
(b) Self Paced: Learning experience that the learner completes individually, at his own speed and on his own time, such as interactive, Internet-based or CD-ROM training.
(c) Collaboration: Environments in which learners communicate with others, for example, e-mail, threaded discussion or online chat.
(d) Assessment: A measure of learners’ knowledge. Assessment can come before live for self-paced events, to determine prior knowledge, and post-assessment can occur following live for self-paced events, to measure learning transfer.
(e) Performance Support Materials: On-the-job reference materials that enhances learning retention and transfer, including PDA downloads, and printable references, summaries and job aids.

Categories of Blended Learning Systems (GRAHAM; 2005)
Enabling blends: Primarily focus on addressing issues of access and convenience – for example, blends that are intended to provide additional flexibility to the learners or blends that attempt to provide the same opportunities or learning experience but through a different modality.
Enhancing blends: Allow incremental changes to the pedagogy but do not radically change the way teaching and learning occur. This can occur at both ends of the spectrum. For example, in a traditional Face-to-Face learning environment, additional resources and perhaps some supplementary materials may be included online.
Transforming blends: Blends that allow a radical transformation of the pedagogy, for example, a change from a model where learners are just receivers of information to a model where learners actively construct knowledge through...
dynamic interactions. These types of blends enable intellectual activity that was not practically possible without the technology.

**Blending At Many Different Levels:**

**Activity-Level Blending:** Blending at the activity level occurs when a learning activity contains both face-to-face and CM elements. For example, UNG and Suzuki share how technology is used to bring experts at a distance into the classroom, creating a simultaneous face-to-face and CM experience.

**Course-level Blending:** Course-level blending is one of the most common ways to blend. It entails a combination of distinct face-to-face and CM activities used as a part of a course. Some blended approaches engage learners in different but supportive face-to-face and CM activities that overlap in time, while other approaches separate the time blocks so that they are sequenced chronologically but not overlapping.

**Programme-Level-Blending:** Graham (2005) observes that blends in higher education are often occurring at the degree programme level. Blending at a programme level often entails one of two models; a model in which the participants choose a mix between face-to-face courses and online courses or one in which the combination between the two is prescribed by the programme.

**Institutional Level Blending:** Some institutions are making an organizational commitment to blending face-to-face and CM instruction. Many corporations as well as institutions of higher education are creating models or blending at an institutional level.

Across all levels, the nature of the blends is determined by the learner for the designer for the instructor. Blended at the institutional and programme levels is often left to the discretion of the learner, while designers and instructors are more likely to take a role in prescribing the blend at the course and activity levels.

**Blended Learning in Empowering Learners and Teachers**

Using a blending learning approach can improve the quality of the learning experience, and in so doing, extend the scope of the tutor. This can be achieved through individualized learning experiences for all learners, personalized support, collaborative learning, virtual learning environments (VLEs), flexible study and wide access to digital resources, shared tools and information systems.

Teaching a blended course starts with a reexamination of the intended learning outcome of course. An instructor needs to design online and in-class learning activities that support these intended learning should discuss with students why their course is being taught as a blended course and to prepare them for their role and responsibilities.

1. Mechanism for helping students who are not used to working independently, for who find using new course technologies challenging, should be in place.
2. Instructors and their teaching assistants need to learn how to facilitate and assess online discussion effectively.

The following are aspects of effective course design and instructor behavior that can be applied to blended courses; however, they are applicable to all courses whether they are face-to-face, blended or completely online.

1. Intended learning outcome are measurable, achievable, concise, and clearly stated.
2. The learning activities and assignments promote the achievement of the intended learning outcomes and are aligned with each other.
3. The course effectively engages students in the learning process through a mix of student-content, student-instructor, and student-student interaction.

Course activities respect diverse talents, background and different ways of learning.

1. Authentic learning activities are used to help students recognize the relevancy of course content.
2. Regular feedback about student performance is provided in a timely manner throughout the course.
3. Course activities promote active learning.
4. The instructor emphasis the value of time on task and communicates high expectations to their students.
5. The instructor creates and fosters a supportive learning environment or learners.  

**Conclusion:** Blended learning programme focus on helping teachers “understand how to motivate individual learners, enhance students interaction and understanding without visual cues, tailor instruction to particular learning styles, and develop or modify interactive lessons to meet students needs.”

“Blended” ones also provide opportunities or the participants, including the teachers, to understand how meaningful interaction can be initiated and sustained and how difference and diversity among the participants can serve as resources or learning

**References**


INCLUSION OF PORTFOLIO ASSESSMENT IN CURRICULUM: AN EFFECTIVE METHOD FOR STUDENT'S PERFORMANCE

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Introduction:
Teaching or successful learning cannot occur without high quality assessment. Assessment, therefore, needs to be integrated with the process of teaching and learning. Assessment as to be so designed that it can be used as a powerful means of influencing the quality of what teachers teach and what students learn. While doing so, special care must be taken to ensure that it is humane and it enables the learner to grow in to a responsible and productive citizen. The assessment of portfolios consisting of samples of work produced by learners over a period of time is called assessment. Portfolios are widely used nowadays in schools, colleges, universities and teacher education contexts in many different countries. This is because portfolio assessment seems to have several advantages over a single test.

Assessment:
Assessment refers to collecting information on students’ learning using a variety of procedures, and evaluation refers to making judgments on the basis of the information collected. The process and purpose of assessment should shift from merely assigning grades/awarding marks to include constructive feedback and assist with the learners’ improvement. Assessment is not only important or learners, but it is equally valuable for the teachers as it can help them identify individual and special needs, requirements, and interests of the learner. The most vital thing being that the ear of assessment in children is reduced and they perform better. Assessment must recognize and reflect the intellectually and socially complex nature of reading and writing and the important roles of school, home, and society in literacy development. Assessment which promotes learning is characterized by:

- It is embedded in a view of teaching and learning of which it is an essential part.
- It involves sharing learning goals with pupils.
- It aims to help pupils to know and to recognize the standards they are aiming for.
- It involves pupils in self-assessment.

Portfolio:
It is a purposeful collection of student work that shows the story of the students’ efforts, progress or achievement in a given area. The collection must include student participation in selection of portfolio content; the guideline or selection criteria for judging merit; and evidence of student self-reflection (Arter and Sandoval, 1992: 36). Portfolios which are long been a standard form of assessment form of assessment can be denied as a purposeful collection of a student's works that exhibits to the student (and/or others) the students’ efforts, progress, or achievement in a given area. Nine characteristics that are present to a greater or lesser degree in portfolios are:

- A portfolio is a collection of written works, rather than a single writing sample.
- It enables the writer to display a range of writing performances, in different genres and different audiences and purposes.
- A portfolio possesses context richness in so far as it reflects closely the learning situation and demonstrates what the writer as accomplished within that context.
- An important characteristic of most portfolio programmes is delayed evaluation, giving students both the opportunity and the motivation to revise written products before a final evaluation is given. Portfolios generally involve selection of the pieces to be included in the portfolio, usually by the student with some guidance from the instructor. Delayed evaluation and selection offer opportunities or student centered control, in that
students can select which piece s best fulfill the established evaluation criteria and can revise tem before putting them into their portfolios.

A portfolio usually involves reflection and self assessment ,in that students must reflect on their work in deciding how to arrange the portfolio ,and are frequently asked to write a reflective essay about their development as writers and how the pieces in the portfolio represent that development Portfolios provide a meaningful view of a student’s progress in learning .The concept of portfolio preparation should be thoroughly discussed with students so that they understand the purpose of the portfolio .It is like any other form of writing assessment .The actors integral to the designing of a portfolio include the purpose, content ,scoring system and the overheads involved .The evaluation of the process of learning is more important that simply evaluating the end product. Portfolios can be evaluated by peers or self evaluation or by the teacher .By following the methods that we've just seen one can ensure a better participation on the part of the learner's /Se will feel involved in the whole process receiver of knowledge .We must remember at all times that child has been perceived as a passive receiver o knowledge .We must remember at all times that child is an active leaner and is also capable of evaluating is/her own intellectual growth and as the ability to set individual goals .The portfolio consisted of our core elements are writing tasks with multiple drafts of each task; comments from peers; feedback from trainers ;and self-assessment and reflection.

Types of Portfolios
According to Columba and Dolgos (1995) ,three are basically tree types o portfolios to consider or classroom use:

1. Showcase : This type of portfolio focuses on the student’s focuses on the student’s best and most representative work .This type of portfolio is similar to an artist’s portfolio were a variety of work is selected to reflect breadth of talent .Therefore ,in this portfolio the student selects what he or she thinks is representative work. This older is most often seen at open houses and parent visitations'.

2. Teacher –Student Portfolio : This type of portfolio is called the “Working portfolio” or a “ working older” .This is an interactive teacher–student portfolio tat aid in communication between teacher and student. The teacher and student conference to add or delete within the content o portfolio.

3. Teacher Alternative Portfolio : All the items in this type of portfolio are scored ,rated ,ranked ,or evaluated .Teachers can keep individual student portfolios that are solely for the teacher's use as an assessment tool. This is a focused type of portfolio and is a model of holistic approach to assessment (Columbia & Dolgos ,1995 :175).

Principles of Portfolio
The ten powerful principles of Portfolio are

1. Teacher and administrators must plan or and be trained in the portfolio approach to assessment
2. Sufficient resources of time and energy must to be allocated to support portfolio assessment
3. Teachers must work as a team to plan or the implementation of portfolio assessment
4. Parents and the public need to understand portfolio assessment
5. Documentation of the processes and student achievements ,as well as of the analysis of teaching and learning experiences is critical
6. Portfolio assessment provides a new perspective on learning or both teachers and students
7. Portfolio assessment provides is a developmental process or both teachers and student
8. Portfolio assessment provides a new perspective on learning or both teachers and students.
9. Self –evaluation of learning is an integral part of the portfolio process
10. Collecting ,Selecting and reflecting on work is central to the portfolio process.

The advantages of Portfolio Assessment
Because of the limitation of traditional assessment test, many educators have been experimenting with alternative forms of assessment ,and many have described the advantages of portfolio assessment .The portfolio assessment can
help students understand their strength and weakness. They also believe that students are more able to link success and failures to performance and may also facilitate goal setting through portfolio assessment. Portfolios provide more information about student progress and encourage students to be responsible of their own learning. Therefore, students feel as they take bigger roles in the learning and the assessment processes. Portfolios also help students develop skills necessary or life-long learning. On the other hand, portfolios reduce the teacher’s daily burden of grading papers (Gilman, 1995: 22). The advantages of portfolios are:

- Promotes student self-assessment
- Promotes collaborative assessment
- Systematic assessment is ongoing
- Focus on improvement not comparison with others
- Assessment process is individualized
- Allows demonstration of unique accomplishments
- Provide concrete examples or parent conferences
- Products can be used or individualized teacher diagnosis
- Flexibility and adaptability.

In sum, portfolios enable to assess global understanding and thinking skills with a multidimensional form of evaluation.

**Conclusion**

Portfolios should be developed by the students, not the teacher. Students should have freedom in selecting items to include in their portfolios. It is advantageous to make the whole portfolio process a collaborative teacher – student be developed by the students. The teacher’s functions more as a coach than a director.

Typically, teachers hold periodic individual conferences with their students review their portfolios. During this interview it is important to listen to the student’s assessments of the items in their portfolio. The focus on the discussion should be upon the products included in the portfolio. The teacher and student work together to set a limited number of objectives for future work. Strive to achieve a dialogue, not a lecture. Portfolios are especially helpful at parent conferences. Help the parent examine the portfolio, pointing out evidence of progress and areas of needed improvement. Portfolios are a new concept to most students and parents. There is a learning curve involved in adapting to the process.

**References**

21ST CENTURY OUTCOME BASED INCENTIVE MODEL FOR HIGHER EDUCATION

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Abstract:
Expectations towards students in higher education have changed over time. Learning cannot be considered as a passive knowledge-consuming process anymore. This study has proposed Outcome Based Incentive (OBI) model which deals with reform in the higher education system that starts with understanding the range, size and variety of existing not used funds to use as incentives for both student and for teacher respectively. Ideas to reform the finance system will not work unless they are appropriately sized, timed and aligned properly. OBI Model in higher education is a funding system whereby a portion of a university’s higher education budget is allocated according to particular metrics of student performance. The system should be predicated on goal setting either by the university or department respectively. The OBI which can be either financial or regulatory depends on the policy maker. The proposed model will help to motivate students learning performance in higher education respectively.

Keywords: Outcome Based Incentive (OBI), Higher education, student, learning.

Introduction
Scholarships are awarded based on various criteria, which usually reflect the values and purposes of the donor or funder of the award. Therefore, in a bid to verify the impact of scholarships on students’ academic performance. Scholarships are award of financial aid to enable students in their academic pursuit and/or further their education [1]. Higher education institutions have progressively implemented more systematic, formalized quality assurance processes, recognizing this as a way to achieve greater efficiency and accountability within their organization (Burke & Minassians, 2001). Traditionally, teachers in many parts of the world are compensated based on credentials (degrees and certifications) and experience. However, research has shown that the returns to experience are limited and that credentials have little impact on student performance. Nonetheless, teacher quality is very important. Because of this disconnect between teacher compensation and teacher performance, the idea of financial incentives for teachers (often called “performance,” “merit,” or “incentive” pay) aligned with measures of student performance has become increasingly popular.

Concept Of Outcome Based Incentive (Obi)
A new study for higher education student benefits trends finds that universities should move towards providing outcome-based incentives for students. Outcomes-based incentives give students a reward to perform best at tests conducting by the teachers. “New study counters earlier research showing performance pay is ineffective, and suggests that under certain conditions incentives influence behavior”(BROOKE DONALD) Outcome Based Incentive programs award student with differential compensation based on some combination of measurable outputs and observed student performance. Measurable outputs typically aim to capture student learning attributable to a teacher or university, and can be derived from scores on standardized tests or other more complex assessments of student work. Value-added measures of teacher performance, which account statistically for students’ academic experiences prior to entering a teacher’s classroom, represent a concrete and much-studied approach. Observed performance entails the rigorous documentation of the skills, knowledge, and behaviors associated with effective teaching. Consequently, as the tuition fees of the higher education courses continue to rise. The number of absenteeism has been rising and therefore there is rise in failure in the performance of the higher education respectively. Also failure in examination leads to rise in number of dropouts.
As global policy makers look for ways to improve student performance, financial incentives programs for student have become increasingly popular. Concerns about student performance have led universities to diverge from traditional student awards and base a portion of pay on student outcomes. There is less evidence for developing countries, but several studies indicate that incentives can be highly effective and far cheaper to implement. Innovative incentive mechanisms such as incentives based on relative student performance show promise.

Researchers in this paper have developed conceptual outcome based incentive model for 21\textsuperscript{st} century learning Fig 2: Student Outcome Based Incentive Model. The model has been developed on the basis of type of incentive the policy maker decide and the different learning drivers on which 21\textsuperscript{st} century student performance is depended respectively shown in fig 1: Pyramid for OBI Model. Phase I is the OBI which is decided by the policy makers of the university or educational institutes. It should be periodically carried out and implement so as to gain the positive results. Phase II in the model is the form of Incentive which mainly can be Financial incentive or Non-financial incentive i.e. regulatory incentive respectively. Phase III in the model deals with the student learning drivers which are positively affected by the OBI program. Those learning drivers are the means to improve the performance of the student in 21\textsuperscript{st} century learning. Researchers have listed twelve different learning drivers in the model which are strongly help for student outcome in 21\textsuperscript{st} century. Phase IV is the ultimate student quality performance gained from the upper three phases respectively. Thus Phase III depends on the upper three phases also shown in fig 1.

**Impact Of OBI**

The impact of OBI on student will be positive so as student performance is considered. The model has different learning drivers which have impacted by the OBI program when implemented in right direction. Increase in Student Engagement in the learning which extends the level of motivation they have to learn and progress in their education. Students who are not motivated will not learn effectively. They will not retain information. Motivated students are more excited to learn and participate. Thus OBI leads to Motivate Students to learn. OBI will help students to Complete the Course in time. OBI also impacts on Student Retention which improves the student success rate. When there is competition among students they will be motivated to prove themselves to their peers. This in a way encourages them to improve talents in a particular field. Learning is collective there needs to be an element of competition. OBI builds a positive Competitiveness among students. OBI promotes Regular Attendance maximizes student opportunities to participate more fully in learning activities and form relationships with others. OBI will help in Student Reduction Dropout maximizes the Student Attentiveness in the learning. OBI promotes Student Career Development which is best practices for supporting the career development of students at universities. This will also lead in the Job Placement accordingly. OBI also helps student Self-Assessment involves
students in evaluating their own work and learning progress. OBI promotes *Active Learning* one of the forms of learning in which student engages in learning process.

**Conclusion**

OBI Model in higher education is a funding system whereby a portion of a universities higher education budget is allocated according to particular metrics of student performance. The system should be predicated on goal setting either by the university or department respectively. The OBI which can be either financial or regulatory depends on the policy maker. The proposed model will help to motivate students learning performance in higher education respectively. The impact of OBI on student will be positive so as student performance is considered. The model has different learning drivers which have impacted by the OBI program when implemented in right direction.

**References**

EMPOWERMENT OF EMPLOYABILITY SKILLS AND ARTS STUDENTS

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Abstract

Indian higher education system is criticized by the stakeholders as outmoded and irrelevant as it is not infusing employability skills among the learners. When it comes to ARTs courses the perception is more negative. This paper tries to probe into the same question and endeavors to seek the opinion from the very central and important component of the system – Students.

To make the study encompassing different levels in education (that is undergraduate and graduate) as well as rural urban divide in the context of the objective of self assessment of employability skills by arts students, primary data of both rural and urban college (affiliated to University of Mumbai) students’ was collected through two different survey methods. To test the variability in skills among urban and rural graduates F test was used at 5% significance level. Whereas in case of undergraduates, the objective was to elicit out, reasons behind choice of arts faculty and the endowment as well as deficiency of skill set which are usually aimed by arts students.

The major survey finding which emerged out in case of graduates was that there is variation in the skills empowerment perceived by rural and urban graduates in case of certain skills. The survey of undergraduate students brought out the facts pertaining to awareness, understanding and attitudes of students about their own perception of skill sets which they aim at to achieve through their chosen degree program.

This paper tries to suggest focusing at employability skill infusion at the curriculum development level of arts program along with the other important strategies.

1. Introduction:

According to ‘Higher Education in India : Vision 2030’, report produced by FICCI and EY; in India, 75% graduates in IT, 55% in manufacturing, 55% in Healthcare and 50% in Banking and Insurance are deemed unemployable. As per the report by the NASSCOM\(^1\) there are around 3 million graduates produced annually by various engineering colleges in India, out of which only 33% are employable and for regular graduates the number is even worse, that is only 10-15 % of them are employable. Arts students are perceived by the society as less skillful when it comes to employment. Probably because of the nature of the subjects and the esteemed philosophy hold by the stakeholders in Arts courses: Art for the sake of Art. But when it comes to earning living, all students of all streams are expected to have acquired a combination of some job specific and some generic skills for getting absorbed in the workforce.

According to the Dept. of Education, Australia report\(^2\) “employability skills have been defined as a set of achievements, understandings and personal attributes that make individual more likely to gain employment and to be successful in the chosen occupation.”

It is quite natural that lack of required skill set will make students more vulnerable to all adversities in life. Therefore it is of utmost importance that they should be given the idea about such skills and they should be made more aware, critical, and most importantly serious about identifying, analyzing and eventually acquiring such skills through their chosen courses and program of graduation. This paper shows the result of such self-assessment of Arts’ students about the generic employability skills. Even though certain objectives are put forth by curriculum
framers in terms of graduate attributes and learning outcomes, also skill infusion among learners, it is important to understand from the students about the usefulness of studying such programs in the context of the value addition in the form of employability skills. In this context self-assessment by students is important because they are the ultimate beneficiary of the graduation program.

2. Objectives:
   - To find out Arts students’ own perception about employability skill set
   - To find out difference in graduate urban and rural student’s employability skill set
   - To compare skill set of urban and rural undergraduate students
   - To find out prominent and deficient skills among undergraduates

3. Hypotheses:
   - H0: There is no difference between skill set of urban and rural graduates
   - H1: There is a difference between skill set of urban and rural graduates

4. Methodology:
   - A survey of Graduate students was conducted through Google forms. The list of generic employability skills (developed by Department of Education, Victoria, Australia) was mailed to students and they were asked to select the skills which they feel their graduate program has helped them to develop in themselves.
   - Second survey of undergraduate students was conducted through questionnaire with the aim of understanding. Factors affecting the choice of arts faculty and to understand perception of undergraduate at 5% level of significance.
   - Sample students about their own skill set

5. Statistical Method employed : F-test where the variability in skills among urban and rural graduates was calculated description
   - Stratified Random Sampling was done where (46 urban+ 30 rural) 76 Graduate students from Five colleges (Vaze college, K J Somaiya college, Pragati college, G.Garcia college and Karjat college) in different localities (2 in urban locality, 1 in semi urban and 2 from rural area) affiliated to Mumbai University were surveyed through Google form and (118 urban + 80 rural) 198 undergraduate students were surveyed through questionnaires.

6. Limitations of the study
   1. Small sample size and inherent limitations of self-assessment of the nature where respondents being subjective, over revaluative and being not so well versed with the assessment criteria follows as limitations of this study.

7. Findings:
   1. 7.1 Variation was found in the following skills:
      - Communications skills
      - Planning and organization
      - Self-Management
   No variation was found in following skills:
      - Team Work
      - Problem solving skills
      - Initiative and enterprise
      - Learning Skills
      - Technology skills
2. **7.2 Urban Graduates**: Skills which are chosen by Majority of graduates are called here as prominent skills and skills which are not selected or very few i.e. less than 5% graduates have chosen are considered as Deficient skills.

<table>
<thead>
<tr>
<th>Prominent Skills</th>
<th>Deficient Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening &amp; Understanding</td>
<td>Speaking &amp; writing in languages other than English</td>
</tr>
<tr>
<td>Working across different ages irrespective of gender, race, religion or political persuasion</td>
<td>Persuasion</td>
</tr>
<tr>
<td>Developing practical solution</td>
<td>Applying a range of options, Using mathematics, Applying Problem solving strategy across the range of areas, Testing assumptions</td>
</tr>
<tr>
<td>Adapting to new situations</td>
<td>Generating a range of options</td>
</tr>
<tr>
<td>Managing time and priorities</td>
<td>Adapting resource allocation</td>
</tr>
<tr>
<td>Taking responsibility</td>
<td>Articulating own ideas &amp; visions</td>
</tr>
<tr>
<td>Being open to new ideas &amp; techniques</td>
<td>Acknowledging the need to learn</td>
</tr>
<tr>
<td>Being willing to learn new IT skills</td>
<td>Having the physical capacity to apply technology</td>
</tr>
</tbody>
</table>

**7.3 Rural Graduates**: Skills which are chosen by Majority of graduates are called here as prominent skills and skills which are not selected or very few i.e. less than 5% graduates have chosen are considered as Deficient skills.

<table>
<thead>
<tr>
<th>Prominent Skills</th>
<th>Deficient Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening, Understanding</td>
<td>Using numeracy, Understanding the needs of internal and external customers, persuading effectively</td>
</tr>
<tr>
<td>Working across different ages irrespective of gender, race, religion or political persuasion</td>
<td>Coaching &amp; mentoring skills including giving feedback</td>
</tr>
<tr>
<td>Developing Practical solutions</td>
<td>Applying a range of options, Using mathematics, Applying Problem solving strategy across the range of areas, Testing assumptions</td>
</tr>
<tr>
<td>Being Creative</td>
<td>Identifying Opportunities not obvious to others</td>
</tr>
<tr>
<td>Taking Initiatives</td>
<td>Predicting – weighing up risk, evaluate alternative &amp; apply evaluation criteria</td>
</tr>
<tr>
<td>Having a Personal Vision &amp; Goal</td>
<td>Articulating own ideas &amp; visions</td>
</tr>
<tr>
<td>Managing Own learning</td>
<td>Applying Learning to technical &amp; people issues, Acknowledging the need to learn in order to accommodate change</td>
</tr>
<tr>
<td>Having a range of basic IT Skills</td>
<td>Having the physical capacity to apply technology</td>
</tr>
</tbody>
</table>
**7.4 Arts: Choice or Compulsion** – Undergraduate survey tried to probe into the factors which impact, affect and influence students to take up ARTS program.

<table>
<thead>
<tr>
<th>Choices</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Factors that have affected choice of Arts faculty over science and commerce</td>
<td>Percentage in S.S.C</td>
<td>5.2</td>
</tr>
<tr>
<td>Interest</td>
<td>64.9</td>
<td>23.7</td>
</tr>
<tr>
<td>Parental pressure</td>
<td>1.3</td>
<td>0</td>
</tr>
<tr>
<td>Peer pressure</td>
<td>2.6</td>
<td>0</td>
</tr>
<tr>
<td>Any other</td>
<td>6.4</td>
<td>6.4</td>
</tr>
<tr>
<td>2 Arts because of fewer expenses</td>
<td>Yes</td>
<td>9.1</td>
</tr>
<tr>
<td>3 Aspiration for higher studies after BA</td>
<td>Yes</td>
<td>80.5</td>
</tr>
<tr>
<td>No</td>
<td>19.5</td>
<td>6.3</td>
</tr>
<tr>
<td>4 Course Inclination after BA</td>
<td>MA</td>
<td>59.7</td>
</tr>
<tr>
<td>MBA</td>
<td>2.6</td>
<td>16.3</td>
</tr>
<tr>
<td>Law</td>
<td>9.1</td>
<td>12.5</td>
</tr>
<tr>
<td>PG Diploma</td>
<td>1.3</td>
<td>3.7</td>
</tr>
<tr>
<td>No answer</td>
<td>27.3</td>
<td>0</td>
</tr>
<tr>
<td>5 Relevance to Career</td>
<td>Yes</td>
<td>84.4</td>
</tr>
<tr>
<td>No</td>
<td>10.4</td>
<td>18.7</td>
</tr>
<tr>
<td>No answer</td>
<td>5.2</td>
<td>0</td>
</tr>
</tbody>
</table>

It is quite interesting to understand that majority of the urban undergraduate students are choosing Arts program because of their own interest in studying that. Both urban and rural ug students want to pursue higher studies after BA and majority of them want to go for MA followed by Law, MBA and PG Diploma. And the most important finding is majority of them find their chosen program has got relevance to career which they want to pursue.

**7.5 Urban UG Students self-analysis**

UG Students were asked to list the employability skills which they feel they are getting through their chosen Arts program.
It is interesting to understand here that students perceive a broad range of skills as employability skills and are not much aware about the generic and specific employability skills.

7.6 Rural UG Students self-analysis

UG Students were asked to list the employability skills which they feel they are getting through their chosen Arts program.

It is seen that majority of the UG students find themselves endowed with communication skill followed by writing reading skills. It is very disheartening to understand that majority of the students are clueless when asked about their achievement of the skills through program of study. It highlights the fact that students are unaware about employability skills
7.7 Deficient Skills of Urban UG
UG Students were asked to list the skills which they feel they are desirous of but not getting through their chosen Arts program.

8. Conclusion:
In case of certain skills variability was found among rural and urban graduates. Students consider them endowed with certain skill sets prominently but are doubtful about others. It calls for actions on war footing by University, Businesses and Industry to come together and through collaborative plans and programs enhance and utilize the youth power by empowering them with required and relevant employability skills.
9. Recommendations:
1. It is very important to explicitly identify and effectively infuse employability skills in universities curriculum. In fact each course and program should have specific skillset which is communicated to the learners well before they apply for that course or program. So that the information asymmetry involved in decision making/opting for a particular course/program is minimized.
2. Work integrated learning can not only enhance the potential skills of the learners but also help them to identify particular skill deficiency in them. This will eventually help them to overcome their limitations and get better prospects for job.
3. Self-assessment in various ways and forms should become an important, integral and compulsory component in the learning process; and it must happen at appropriate time, level and interval.
4. Choice based credit system can go a long way in developing desired skill sets among learners when implemented in its true sense where many course choices are available to students e.g. Physics graduate can study economics.
5. Various skills required for leadership in work, management can be better and more rigorously gained by participating into extracurricular activities like NSS, NCC, cultural events. Therefore attempts should be made to bring them under the ambit of curriculum as an activity to earn the credit/score.

3. References: