

EFFECTIVENESS OF INTEGRATION OF ICT IN PEDAGOGY FOR DEVELOPING TEACHING AND LEARNING PROCESS

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Abstract :

Pedagogy is the art and science of teaching. Teaching is becoming one of the most challenging professions in today's scenario where knowledge is expanding rapidly and making the information easily and in uncensored form to today's student. Thus, rapidly modifying modern technology demands today's teacher to learn and include use of it in their pedagogy. As, Information and communication technology (ICT) provides more flexible and effective ways for teachers to use recent pedagogy for developing teaching and learning process. Appropriate blending of ICT with recent pedagogy will help teacher to make the teaching learning process more efficient and approachable in local as well as global education. Through this paper the author made an endeavour to highlight the importance and utilitarian value of inclusion of ICT in pedagogy by the teacher in order to develop teaching and learning process. Factors obstructing the use of ICT inclusive pedagogy following with respective measures to overcome with that has also been discussed in this paper.

Key words : Pedagogy, Information and communication technology (ICT), teaching and learning process

Introduction

Pedagogy is the art and science of teaching. Effective teachers use an array of teaching strategies because there is no single, universal approach that suits all situations. Different strategies used in different combinations with different groupings of students will improve learning outcomes. Some strategies are better suited to teaching certain skills and fields of knowledge than are others and some are better suited to certain backgrounds, learning styles and abilities. Effective pedagogy, incorporating an array of teaching strategies that support intellectual engagement,

connectedness to the wider world, supportive classroom environments, and recognition of difference, should be implemented across all key learning and subject areas. Effective pedagogical practice promotes the wellbeing of students, teachers and the school community - it improves students' and teachers' confidence and contributes to their sense of purpose for being at educational institute; it builds community confidence in the quality of learning and teaching in an institution. As the technological growth started invading class rooms, several attempts were made to make use of technology in teaching and learning process. Keeping stride with development of the age tools of Information and communication technology have progressively found their place within the walls of educational institutions and start restructuring pedagogical practices. In this paper the author discuss about the utility of incorporation of ICT in recent pedagogy, factors restricting the user from its effective use and suggestions to curtail those factors.

Importance of Pedagogy :

Pedagogy is the "how" the teaching and learning occurs. Students are not empty vessels to be filled with our expert knowledge. They must create their own understandings through our considered learning experiences. Teacher needs variation in order to influence all the students in the class. Consequently a wide variety of teaching strategies are essential in order to develop effective methods of teaching at the highest level.

A pedagogical practice is only innovative and effective when a teacher uses resources, materials, methods, principles, explanations, examples, etc. those have not been employed before. As huge advancements are made in the field of education, the format and context of teaching materials is also undergoing transformation. There are many types of Information and communication Technology (ICT) has been recommended to use and are in use in traditional classrooms in order to make teaching-learning practices more effective and productive. But the starting –point for innovation must always be the goals and requirements of pedagogy.

ICT are used in education in two general ways: to support existing ‘traditional’ pedagogical practices e.g. teacher-centric, lecture-based, memorisation learning, as well as to enable more learner-centric, ‘constructivist’ learning models. Teachers’ pedagogical practices and reasoning influence their uses of ICT, and the nature of teacher ICT use impacts student achievement. Proper blending of ICT with pedagogical practices and skilled implementation can benefit the learning-teaching practices, teachers and learners in following manners.

Importance of ICT inclusive pedagogy for developing teaching and learning process :**ICT-a helping tool –**

It helps teachers to create more 'learner-centric' learning environments. The most effective uses of ICT are those in which the teacher, aided by ICTs, can challenge pupils' understanding and thinking, using ICTs. ICTs are seen as vital apparatuses to enable and care the travel from traditional 'teacher-centric' teaching styles to more 'learner-centric' methods.

Support change-

Use of ICT supports change and outspread existing teaching practices. Pedagogical practices of teachers using ICT can range from only small enhancements of teaching practices using what are essentially traditional methods, to more fundamental changes in their approach to teaching. ICTs can be used to strengthen prevailing pedagogical practices as well as to change the format of Pupil-teacher interaction.

Effectiveness-

By means of ICTs information presentation is of mixed effectiveness, the use of ICTs as presentation tools through overhead projectors and LCD projectors, television, electronic whiteboards, computers, etc. is seen to be of assorted efficiency. While it may promote class understanding and discussion about difficult concepts, such uses of ICTs can re-enforce traditional pedagogical practices and divert focus from the content of what is being discussed or displayed to the tool being utilized.

Support teaching styles of teachers-

Types of usage of ICTs relate with teachers pedagogical philosophies. Teachers who use ICTs the most and the most efficiently are less expected to use traditional 'transmission-method' pedagogies. Teachers who use variation of ICT in numerous means incline to practice more "constructivist" pedagogies.

Barriers /Factors limits combination of ICT with Pedagogy :

Though the involvement of ICT in pedagogy has its own importance and benefits. Researches and surveys reveals that in spite of the efforts of government and non-government sector in education for the use of ICT in the teaching-learning process the set objectives are not achieved in this respect. Being proven and accepted that ICT to be supportive in pedagogy practices most of teachers, students and educational administrators are not found wise enough in the adoption of ICT with the traditional pedagogy practices specifically for the purpose of effective teaching-learning process. Following are the factors which restrict them to do so.

Teacher technical abilities and knowledge of ICTs

Teachers practical mastery of ICT expertise is a not an adequate prerequisite for successful amalgamation of ICTs in teaching.

Lack of proper training-

'One time training' is not satisfactory. In general we can observe that the training provide to teachers for the use of ICT is not in adequate number and not with much practical approach and knowledge. Hence, very few teachers characteristically have an inclusive knowledge of the wide range of ICT tools and resources.

Students are more refined in their use of technology than teachers-

There seems to be a great disconnect between today's students' knowledge and usage of ICTs and the familiarity and skills of teacher to practice ICTs. This suggests that teacher inexperience and skill deficiencies may often be an important factor inhibiting the effectiveness of ICT use in education.

Limitation to use of ICT-

Teachers limitedly use ICTs for administrative tasks. Teachers restricted use of ICTs for 'routine tasks' like record keeping, lesson plan development, official work, information presentation, basic information searches on the Internet, etc. and not for improvising their presentation and teaching skills.

Time Consuming-

Most of the teachers carry the opinion that introducing and using ICTs in teaching and learning at regular basis is time consuming as it required lot of technical preparation and timely updating. Hence they find themselves more comfortable in practicing their tradition pedagogy.

Anxiety prevents many teachers from using ICTs-

Many teachers still feel unease in using ICTs, and thus are reluctant and possess low confidence and lack of internal and external motivation to use them in their teaching.

Teachers subject knowledge-

Teachers' subject knowledge influences how ICTs are used. The way ICT is used in lessons is influenced by teacher knowledge about their subjects, and how ICT resources can be utilized and related to it.

Lack of availability of ICT resources-

In Indian Scenario it has been observed that the physical and technical facilities required for effective ICTs resources are not available in adequate quantity and quality. Other technical

faults and unsupportive technical environment also act as one of the barrier in use of advanced technology integrated pedagogy.

Suggestive measures to improve the qualitative and quantitative inclusion of ICT with recent pedagogy:

With reference to above discussion the author would like to put forth few suggestive measures which could help in minimizing the barriers and optimizing the utility of recent pedagogy specially ICT inclusive pedagogy for developing teaching and learning process.

Incentives must be developed to promote effective use of ICT in recent pedagogy :

Teachers require additional motivation and incentives to actively incorporate habit of using ICT. A variety of incentives can be used, including certification, professional advancement, pay increases, formal and informal acknowledgment at the institutional levels and among peers, reduced segregation, and enhanced productivity.

Easy and consistent access to ICTs :

The most significant factor for continuing the development of teachers' ICT-related skills is for them to have regular access to functioning and relevant ICT equipment/s.

Teacher content mastery and understanding of student comprehension make ICT use More effective :

When teachers will use their knowledge of both the subject and the way pupils understood the subject; their use of ICT has a more direct effect on student attainment.

Regular training for use of ICT :

Traditional one-time teacher training workshops have not been seen as effective in helping teachers to feel comfortable using ICTs, let alone in integrating it successfully into their teaching. Teachers entail widespread, on-going acquaintance to ICTs to be skilled to evaluate and select the most appropriate resources as per the need of content.

Introducing ICTs expands the needs for on-going professional development of teachers :

Effective ICT use in education increases teachers' training and professional development needs. However, ICTs can be important tools to help meet such increased needs, by helping to provide access to more and better educational content, aid in routine administrative tasks, provide models and simulations of effective teaching practices, and enable learner support networks.

Demand for Change :

A variety of changes must be implemented to optimize teacher use of ICTs shifting pedagogies, redesigning the curriculum and assessment, and providing more autonomy to the

educational institutions help to optimize the use of ICT. With sufficient enabling factors in place, teachers can utilize ICTs in as ‘constructivist’ a manner as their pedagogical philosophies would permit.

Provision for technical infrastructure :

Teachers must have adequate access to functioning technical equipment’s of ICTs, and be provided with sufficient technical support, if they are to use ICTs effectively.

Support from Institutional administration & authority :

Support of educational institution’s administrator’s and authorities for teachers to use of ICTs is required in the form of appreciation and motivation. The effective use of ICT in pedagogy practiced by teachers claim to get proper cognizance from the authorities.

Conclusion :

As the new age is the age of technology. This technology has become an integral and indispensable part of our life. To cope with the competitive world and for the global education, it requires that the traditional and modern should go hand in hand with appropriate assimilation. Thus, the pedagogy need to modify and advanced one with the progressing world. Open hearted acceptance of assistance from Information and communication technology definitely show positive impact on teaching learning process. There is no doubt about the role and importance of teacher in the teacher-learning process. Teachers remain central to the teaching-learning process; a shift in the role of a teacher utilizing ICTs to that of a facilitator does not hinder the need for teachers to serve as leaders in the classroom; traditional teacher leadership skills and pedagogy practices. As ICT alone will not change the teaching and learning process, both are useful, but that ICTs are most effective when they help to enable learner-centric pedagogies. Thus, recent pedagogy needs skilled execution for developing teaching and learning process.

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