

TECHNO PEDAGOGY AND USAGE OF SELF-CONTAINED MODULES UTILIZING TECHNOLOGY IN TEACHING-LEARNING IN HIGHER EDUCATION LEVEL

¹Swapna Ghosh, ²Dr. Harsha Patil

¹(Ph.D. Research Scholar), Kalinga University

²(Research Supervisor & Associate Professor), Kalinga University

Abstract

Modern technologies have made traditional teaching method evolve from its inactive way in the present modern education system all over the world. At the same time, if digital learning method seeks its own identity by eliminating the teacher-learner bond, the way of learning seems absurd. The reality is that traditional teaching method wants the fullest flourishing of its aspects not only at the time of pandemic situation when the main target is to keep ourselves safe at home but for a long run also through the advent of educational technologies. The main objective of the study is to point out the challenges regarding virtual classroom and impact of technology and observing its diversity in higher secondary level. This particular paper tries to give reasons and find out possible ways to access online education using self-contained modules and utilizing technology as the backbone of education system specifically higher secondary level. Now, lack of training and experiences among both teachers and learners have compelled the teaching-learning process to walk forward with frequent halts in the present higher secondary level. In order to take these drawbacks in account and to establish a digital learning system, sincerity and flexibility among both the teachers and students will be required. An info graphic, proposed revolution of teaching-learning method can be designed in a dynamic way with the help of advanced technology and multimedia tools modernizing the human race. Thus this paper tries to highlights that pedagogical solution to the key problem of increasing complexities of teaching-learning process is made possible due to the facilitations offered by ICT.

Key words: Techno Pedagogy, Technology, Online, Teaching and Learning, Higher Secondary Level

Introduction:

In order to cope with a struggling environment, teaching methods urge a more multifaceted schooling system. From home we have to try our best to maintain this teacher-learner friendly education system just to create an artificial classroom ambience with the help of online communication. Interpretation of various terms, concepts, principles deserves a three layer strategy on the part of the educators e.g. conceiving, planning and implementation.

The most integral part of teaching-learning strategy aims at a comprehensive study of virtual, moral, and social needs of the learners to bring about their all round development. Now what it fails to achieve in the pandemic situation is the correlation between teacher and learner. Electrical devices like computer, laptops, tablets, mobile phone etc works as a media, looking

closely at the learner's minute brain activities in a classroom like ambience, sharing what they saw, learned and experienced and helping a teacher conceive the whole environment and plan his lessons.

In short, the interactions and observations of a teacher is the heart of teaching-learning process. The learning process according to the Behaviorist School of Educationists can be divided into three domains- cognitive, affective and psychomotor. By these three domains, the teacher can possibly observe and modulate the behavioral pattern of a student. The thing one should remember is that when the learner is able to realize the discussed matter and then to become aware of it and later to gain knowledge by experiencing and memorizing, the aim or target of a teacher is fulfilled. So a teacher should follow three effective methods, namely, teacher-centric method, learner-centric method and group-centric method. These can only be utilized by online practices rather than empirical works or learning theories or original researches.

Techno Pedagogy and usage of Self-contained Modules utilizing Technology in the Higher Secondary Level:

It's high time to consider about the online educational system and it's the opportunity to utilize technologies in education. Along with the technological implementations of 21th century, education system urges a more digital refinement. With the development of technology, teacher's role needs a change from offline classes to digital classes during the present education system and therefore the new learning-teaching process urges a more flexible and active participation of teachers in digital platforms. Opportunities for communication and collaboration have been seen to expand by digital innovations in our teaching methodology.

□ Pedagogical solution using technology

In order to welcome a thought-based learning process in this present education system, education needs a transformation from traditional education system to advanced learning process. Succeeded by enormous digital innovations, online platforms in the field of learning should occupy the main ground of education system. Incorporation of technologies, the curriculum as well as the pedagogy will keep its focus on the ability of a learner to synthesize his knowledge. The most revolutionary step in this digital era that one can take is the implementation of examination system. Our conventional examination model seems limited. So, besides the changes taken into the teaching process, education system should include an examination process where an open-resource examination should be conducted. Open book examination by allowing the learners to access internet during examination demands development of trained faculty and a considerable requirement of the digital pedagogical model. Hence, generating questions becomes the main focus in this context as question papers would have to be more thought-provoking and complex.

□ **Importance of multimedia tools in teaching learning process**

In order to enhance online learning effectiveness in this present education system specifically in the higher secondary level, multimedia plays a crucial role for teachers. By making this tool accessible anywhere and anytime learning can grow to its full-fledged facilitation. Depending on cognitive objectives of the topics related to classroom discussion, interactive media shows its potential in increasing learners' curiosity to know more. Use of white board, project works and computers to show images, animated graphics, audio clips of historical or geographical importance and also to make pupil know about the physiology, multimedia leaves its imprints on developing skills and knowledge to a great extent.

□ **Usage of asynchronous and synchronous learning technology**

Whereas asynchronous e-learning does not involve at the same time and the subject which is being discussed is created previously and is restored for future use, synchronous learning happens in classroom time and teacher and learner can get the opportunity to interact and to discuss. Now, blending these two types of learning under the name of flipped classroom, same time online classes can be organized to fulfill all the needs of a student in the higher secondary level.

□ **E-Learning and M-learning**

A lecture delivered through any kind of electronic device such as computer or through a TV channel is part of e-learning. M-learning works itself as a subset of e-learning. M-Learning therefore involves all portable devices like a cell phone, laptop etc. When the target is the accessibility of information, m-learning strengthens the learning process. In the higher secondary level classroom, the m-learning service would be more fruitful where the computer works as a medium, and therefore the knowledge gathered to access the information from it, will be easy enough to access with the help of communication or discussion between teacher and learner. On the other hand, when the teacher is seen absent, m-learning modules help the learner enrich his skills by his own effort in his study room.

□ **Several e-learning applications in techno pedagogy in the higher secondary level**

Within the designing of teaching-learning strategy, some e-learning applications like **WebEx, Google Meet, Google Suite, Google Classroom, Moodle, Microsoft Team, Seesaw, Zoom** have shown their immense influence on higher secondary education system as the interaction between teacher and learner, and the classroom like ambience can be restored through audio-video connectivity. The preparation of youth by arranging this kind of environment evolves round a fruitful organisation where in the teaching-learning process the concept of teacher and learner compliments each other.

There are many tools which are created on the basis of higher secondary students' needs to create a proper administration of technology oriented classroom and influencing higher secondary

students and teachers to do collaborative work. Few educational applications and their usage techniques are depicted as following:

- A system like **Socrative** allows teachers to design their own exercises and intellectual games related to the topic by which students can participate freely by surfing internet. The system also allows the teachers to see the results of the students' activities and thus examining them in accordance with acceptability of each of the students and therefore helping the teachers modify the lessons in order to make them more customized.
- Another renowned, more enriching, personalized digital educational tool like **Edmodo** gives the teachers the best opportunity to create educational materials. With the help of this tool, teachers can create online groups of students and therefore can communicate with them in order to improve their performance.
- When the speeches with a lot of information are already delivered, the best effective way to portray them in front of the students is by means of multimedia presentation. Dynamic slides, online quizzes, videos can be provided by the educational tool, **Project**. Teachers can provide their presentation during a class session with the help of various electronic devices like computers, tabs, mobiles etc.
- To expand knowledge and good ideas, collaborative work of teachers, students, and moderators through the digital platform, **TED-ED** can also provide educational lessons.
- Lastly, a platform namely **Storybird** deserves its recognition as it promotes good skills of writing and reading among students through storytelling. Moreover, teachers can create their own artistic books, projects and organize classes online through this platform.

Suggestions to develop the impact of technology in teaching-learning of higher secondary level:

- By allowing the teachers to be trained by a short-period-course regarding the usage of digital teaching process digital teaching process can be designed smoothly.
- Being themselves prepared for online classes, they have to make plans so that in short span of time they can manage to determine the chapter allowing the higher secondary students to perceive knowledge about the whole matter in a way where the interaction between students and teachers, between one student and the other, and the exercises on the topic, and taking class tests related to the subject can be executed.
- Those who are differently able students are found not to grab all the resources and opportunities related to online teaching-learning process during pandemic situation, as well as

for the long at a great extent. If guardians can involve themselves to cooperate their children, it can solve easily and therefore, directly or indirectly teachers will feel free to apply their teaching methods and lesson plans.

- If learning process is being seen to occupy digital platform, the problem of using computer related to the disability of novice students, seems to be a major drawback. In this issue teachers can help them by taking demo classes on how the learners able to perceive this teaching process.
- Not only to teach the subject but also by allowing the students to give feedback and to ask questions about the doubted portion, a healthy classroom-like ambiance can be created.

Conclusion:

In the present education system, its high time to consider about the online educational system and it's the opportunity to utilize technologies in education. Along with the technological implementations of 21th century, education system urges a more digital refinement with the help of techno pegagogy. With the development of technology, teacher's role needs a change from offline classes to digital classes in the present modern education system and therefore the new learning-teaching process urges a more flexible and active participation of teachers in digital platforms.

References:

- Allen, J., Rowan, L., & Singh, P. (2020). Teaching and teacher education in the time of COVID-19. *Asia-Pacific Journal of Teacher Education*, 48(3), 233-236.
- Davies, J., & Graff, M. (2005). Performance in E-Learning: Online Participation and Student Grades. *British Journey of EducationalTechnology*, 36(4), 657-663.
- Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*, 49(1), 5-22.
- Frank, M., Reich, N. & Humphreys, K. (2003). Respecting the Human Needs of Students in the Development of E-Learning, *Computers & Education*, 40(1), 57-70.
- Gaytan, J. (2015). Comparing faculty and student perceptions regarding factors that affect student retention in online education. *American Journal of Distance Education*, 29(1), 56-66.
- McBrien, J. L., Cheng, R., & Jones, P. (2009). Virtual spaces: Employing a synchronous online but classroom to facilitate student engagement in online learning. *The International Review of Research in Open and Distributed Learning*, 10(3), 1-17.

Song, L., Singleton, E. S., Hill, J. R., & Koh, M. H. (2004). Improving online learning: Student perceptions of useful and challenging characteristics. *The Internet and Higher Education*, 7(1), 59-70.

Stewart, D. (2008). Classroom management in the online environment. *Journal of Online Learning and Teaching*, 4(3), 371-374.

Weblink references:

<https://en.unesco.org/gem-report/allreports>

<https://en.unesco.org/gem-report/publications>

<https://en.unesco.org/covid19/communicationinformationresponse/mediasupport>

https://www.researchgate.net/publication/332037078_Techno-Pedagogy_in_Teaching_and_Learning
