

TEACHING AND LEARNING WITH TECHNO-PEDAGOGY

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Abstract

Children who were born into the internet era and are now adults are known as "digital natives." Students of today are quick observers, and they consult the Internet for all of their questions. Simple black-and-white instruction on blackboards with white chalk is no longer effective. Technology usage in the classroom is urgently needed by all teachers in K–12 and higher education. Higher education instructors are required to have ICT (information and communication technology) abilities. The majority of teachers do not include ICT into their lessons. The main cause is that their institutions lack enough ICT resources. Teachers in higher education are directly using material from the Internet in their homes and classrooms. This essay aims to examine the current state of techno-pedagogy in educational settings.

Introduction

"Techno" refers to the art-skill of handwriting that is descended from the Latin word "texere," and "pedagogy" refers to the art-science of education (to weave or fabricate). In this context, the word "techno" serves as a qualifier and combines its own meaning with that of "pedagogy." The term "techno-pedagogy" describes the integration of teaching methods into the actual learning environment. To enhance the simplicity and clarity of the information transfer, cognitive awareness of the mediated learning environment is necessary.

The quality of education will increase with the use of technological pedagogical teaching and learning. With 333 million users, India has surpassed the United States as the second-largest Internet market (45% of the population uses the internet). The most users in this category are in China (721 million). In India, there are close to 15 million students enrolled in higher education. By 2020, the Gross Enrolment Ratio (GER), which is currently 12.84%, will have increased. The amount spent on higher education is 46,200 crores. Most of the money is spent on general education courses at the 92% private and 8% state educational institutions. Comparatively speaking, less money was spent on professional training than on general education. The eighth-best university in the world among the top 10 is the Indian Institute of Science in Bangalore. These are a few details on higher education in India. The majority of India's population, which is under 25 and over 50% younger than average, are students who use the Internet. They can use the internet to discover answers to any questions. Nabin Thakur proposed a National Knowledge Network that would connect

all colleges, libraries, research facilities, medical centres, and agricultural organisations to allow for the sharing of data and computer resources across the nation over a gigabit-capable high-speed information network.

Expertise in Technology

Technology proficiency is demanded of every instructor. In the context of education, technology knowledge refers to an understanding of both more current and cutting-edge tools like the internet and digital films as well as the traditional teaching tools like books and the chalkboard. For today's teachers in higher education, including teacher educators, having the ability to use these tools is a need. Technology knowledge includes understanding how to utilise software like word processors, powerpoint presentations, e-mail, excel spread sheets, and publishers, as well as the hardware of computers.

Knowledge about Pedagogy

Pedagogic knowledge is the profound knowledge about the procedures and practices of methods of teaching and learning. It also includes the knowledge of overall purposes, aims and values of education.

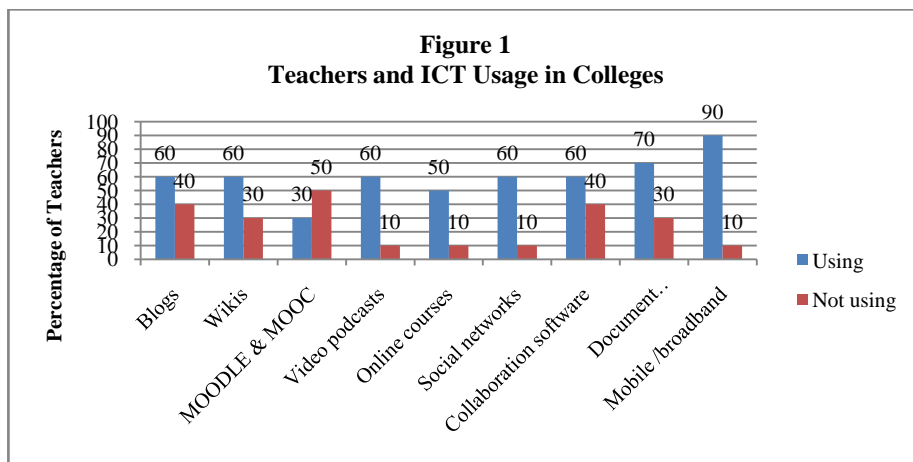
"Pedagogical knowledge" refers to the "how" of teaching, which is typically learned through educational coursework and first-hand experience, according to Lee S. Shulman, who has made significant contributions to the study of teaching, assessment of teaching, and the fields of medicine, science, and mathematics. The "what" of teaching, on the other hand, is content knowledge. It differs between general educational knowledge and the expertise of a disciplinary expert.

Higher Education Professors' Proficiency with Technology in Education

India does not currently have a national plan for ICT in education because state governments are in charge of it. To effectively implement the ICT in education plan and to promote and oversee policy implementation, the state governments must develop norms, standards, guidelines, and frameworks. ICT is significant, Information and communication technology (ICT) can contribute to equity in education, universal access to education, the delivery of high-quality learning and teaching, teachers' professional development, and more effective management, governance, and administration of education. Digital technologies are the foundation of modern societies. Individuals use technologies in daily life. All systems, including those used by banks, businesses, and other institutions, are being steadily digitalized. People and organisations utilise credit cards, athar cards, and pan cards. In this circumstance, instructors must prepare themselves to deal with the social and economic objectives that are the core of a nation's educational system. The success of a quality education depends on the calibre of the instructors and their ongoing professional

development. However, there are serious global structural challenges affecting the quantity and calibre of teachers, teaching practise, and teacher education. The majority of higher education instructors still only use textbooks and chalkboards to teach their topics.

The majority of the teachers are personally using all of the web resources like blogs, wikis, MOODLE & MOOC, online courses, social networks, software, documents, and mobiles, according to a recent survey conducted by the Human Resource Development Centre among 150 University, College, and teacher educators from colleges of education who attended our Orientation Programme. The use of ICT by higher education lecturers is depicted in Figure 1. The quality of higher education will improve if all teachers make use of these resources to teach the subject and other pertinent information to students.



Advantages of Techno-Pedagogy

Techno-pedagogy can enhance the delivery of high-quality learning and instruction, teachers' professional development, and more effective management, governance, and administration of education. It can also help to promote universal access to education. Techno-pedagogy can be used to generate study materials. Techno-pedagogical talents can be used to enhance language capabilities and research activities. Students will esteem a teacher who masters techno-pedagogical techniques and has a multi-tasking attitude. Other applications of techno-pedagogic expertise include enhancing students' and staff members' life skills, enhancing the application and test processes, and enhancing cognitive learning. Teachers with excellent techno-pedagogic abilities can help students make informed decisions about their future occupations and can also inspire students to learn on their own by pointing them in the direction of MOODLE, MOOCs, and other online courses.

The Indian Institute of Technology (IIT) Mumbai is working with the National Mission on ICTs in Education (NMEICT), an initiative of the Ministry of Human Resources Development (MHRD), to produce instructive videos for students termed "spoken

tutorials." At a similar manner, the Government of India's Consortium for Educational Communication (CEC) has a Central Repository of all the Educational Video Programs produced by the Educational Multimedia Research Centres set up by UGC in Universities and Institutions of Higher Education across the nation. The Media Library offers a sizable collection of e-Contents and instructive video programmes totaling 20,000.

The creation of e-content for all subjects is encouraged by the University Grants Commission (UGC). Teachers can also create ICT-based lessons using online courses like Massive Open Online Courses (MOOCs) and the Modular Object-Oriented Dynamic Learning Environment (MOODLE) (coursera, edix, india, Udacity, Future Learn, NovoEd, Canvas, etc.). Teachers can use software such as Word processors, Excel spread sheets, SPSS, Publisher, VLC media players, You Tube, Clip-grab, etc. for their technological pedagogical needs. Internet offers a wide range of electronic materials.

AV resources, multimedia, podcasts, e-portfolios, e-learning platforms, group email, Books, online databases, gateways and portals, e-journals, e-reports, and library websites like ERIC (The Education Resources Information Center) The National Council of Educational Research and Training (NCERT)'s Central Institute of Educational Technology (CIET), publications, and search engines like yahoo, google, bing, Aol, altavista, excite, and lycos are all examples of websites and home pages that teachers can use as ICT resources for their techno-pedagogic instruction. Lessons can be posted on teachers' personal websites and blogs if they have them. After class, students can get their questions answered. For their teaching and learning processes, teachers and students can use Open Educational Resources (OER), which are resources in the public domain or that can be used under an intellectual property licence that enables re-use or adaptation, such Creative Commons. All people, especially those who live in areas with limited resources, can use OER as educational resources to receive a high-quality education.

Conclusion

The National Curriculum Framework (NCF), developed by the Indian government in 2005, focuses on providing connection, worthwhile and practical material, and affordable computer methodologies and equipment to all higher education institutions. However, the technological pedagogical methods in higher education are hindered by the cultural, socioeconomic, time, and geographic limitations. The situation is progressively changing at the moment, and most higher education faculty members and students use ICT to facilitate teaching and learning. Colleges use both online registration and online testing. The quality of education will quickly improve if all teachers are willing to use techno-pedagogic instruction.

References

1. Garg, V. (2011). Architecture-education, practice and research. *The Journal of the Indian Institute of Architects*, 76(12), 30-35.
2. Granger, C. W. J. (1969). Investigating causal relations by econometric models and cross-spectral methods. *Econometrica*, 37(3), 424-438.
3. Murray, D. E. (2000). Changing technologies, changing literacy communities. *Language Learning and Technology*, 4(2), 39-53.
4. Thakur, N. (2015). A study on implementation of techno-pedagogical skills, its challenges and role to release at higher level of education. *American International Journal of Research in Humanities, Arts and Social Sciences*, 9(2), 182-186.
5. Ramsundar, B., & Kunal, C. (2011). Sustainable water management and international trade solution. *Journal of Economic and Sustainable Development*, 2(5), 77-87.