TECH-ENABLED OPEN EDUCATION RESOURCES FOR ENHANCING TEACHER EDUCATION

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ABSTRACT

This write-up examines the teacher education institutions using new ICTs and attempts to highlight the issues involved in creating, sharing and using technology - enabled open educational resources required for increasingly accessible quality teacher education for all. Besides, tech - based open educational resources constitute a significant learning resource and knowledge repository supporting access to data, information and knowledge for all. Due to exponential revolution in ICTs, the institutions of teacher education provide rather enhanced opportunity of interactivity embedded with both synchronous and asynchronous learning resources. The paper aims at developing insights in the process of creating, sharing and using technology based open educational resources and appreciates the amelioration in the existing institutions of teacher education for quality assurance. Looking to the outreach capabilities, it also discusses how technology based new instructional strategies and pedagogical practices can empower institutions of teacher education towards participatory, outcome – oriented and more importantly quality teacher education. However, tech - based open education resources are perceived as an effective transactional mode for a relatively large and growing number of users i.e. learners, teachers, researchers and thus the institutions have unequivocally recognized the rationale of technology driven initiatives resulting in greater involvement, enhanced accessibility and more importantly quality learning materials.

Keywords: Information and Communication Technology (ICT); Open Educational Resources (OERs); Quality Assurance: Teacher Education

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Overview

The new breed of movement towards more accessible, affordable and quality learning resources for learners, teachers and researchers is now getting momentum and thus, it has become increasingly significant to appreciate how open educational resources are created, shared, used and re-used while utilizing tech - based new information and communication technologies, devices, applications and other appliances. Teacher education caters to the needs of skill development, learning, and specialization, attitudes and interest development and also prepares prospective teachers towards more responsive and productive citizenship. It has the mandate of developing the prospective teachers, more particularly in knowledge, skill and attitude domains. According to Wikipedia, teacher education or teacher training refers to the policies, procedures, and provision designed to equip (prospective) teachers with the knowledge, attitudes, behaviors, and skills they require to perform their tasks effectively in the classroom, school, and wider community(Wikipedia, 2018.p01). Individual care of the learners has been greatly emphasized. Meticulously designed evaluation procedure has also been of major concern in this regard. In the context, the institutions of teacher education need to inculcate required knowledge, attitudes and skills among the teachers of the future with a global outlook. The prospective teachers need to imbibe the teaching competencies required and capabilities of serving the community and nation at large.

In developing internal capacity in the use of ICT in teaching, learning and research, teachers need to be involved in designing particular ICT initiatives to ensure their relevance and effectiveness(COL, 2009, pp.24). The learners, teachers, researchers and other practitioners must make every effort to promote open educational resources by using the new ICT tools, applications and appliances to effectively raise the standards of teacher education. However, the paper is designed with an objective to develop insights in the process of creating and sharing tech based open educational resources and appreciates the amelioration in the existing institutions of teacher training and teacher development for quality assurance.

Teacher Education

At the very outset, teacher education is an institutional process where prospective teachers and teacher educators and other instructors interact in order to explore the unexplored. UNESCO's

ICT Competency Framework for Teachers – 2011 emphasizes that it is not enough for teachers to have ICT skills and be able to teach them to their students. Teachers need to be able to help the students become collaborative, problem-solving, creative learners through using ICT so they will be effective citizens and members of the workforce(UNESCO, 2016, p.01). In the context, an institution of teacher education is considered to be the depot of knowledge where new ideas on pedagogical issues are not only generated but also matured.

Open Educational Resources (OER) provide a strategic opportunity to improve the quality of education as well as facilitate policy dialogue, knowledge sharing and capacity building(UNESCO, 2015, p.01). The open educational resources through various web portals offer an opportunity to learning, development and education for all. Teaching and research have to be inseparable, because the task of the university is not only to impart knowledge to young people but also to give them opportunities to create their own knowledge(CARRHE, 2009, p. 9). The institutions of teacher education are set up with an objective to provide prospective teachers the structured knowledge commensurate with the global requirements. In the context, there is global support and interest across the whole education sector for the development and integration of ICT into education policy, curriculum and practice(Shah, A. & Godiyal, S. 2009, p.105). The teacher education institutions would play a significant role in promoting the open educational resources movement to enable the learners and instructors create, share, use and re-use for academic excellence.
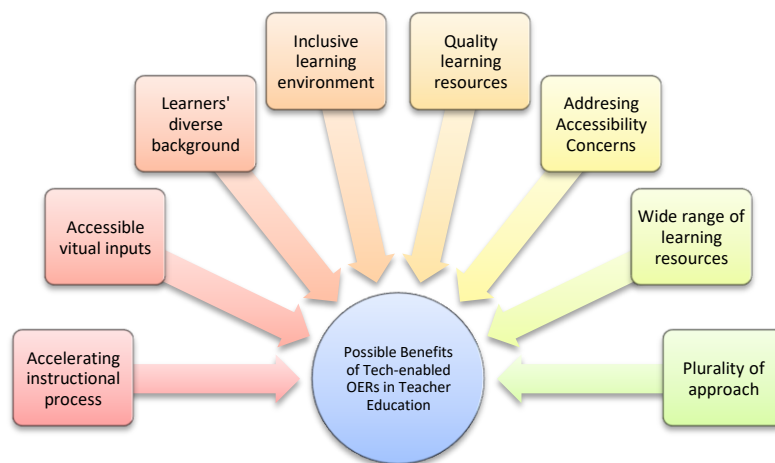
Figure 1: Possible Benefits of Tech-Enabled OERs in Teacher Education

Undoubtedly, new information and communication technology for teacher education would initially require huge monetary implications. However, it would support in long run a convenient and widespread access and to quality learning resources, and strengthen teacher education resulting in the improvement of the instruction and the conditions of learning at tertiary level.
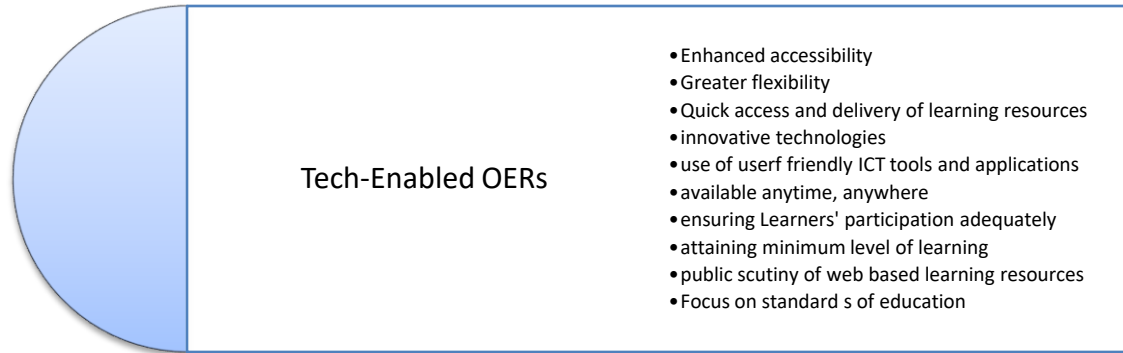
With the large and growing learners, an effective and credible mechanism is getting momentum for not only creating and sharing the resources but also looking forward for new research scope for abundant learning resources to be made available anytime, anywhere.

Tech-Enabled OERs

The issue of creating and sharing open education resources assumes significance when institutions of teacher education taking into account not only the technological imperatives but also advancing instructional business effectively, efficiently and expeditiously. The term open educational resources (OERs) are used to describe a networked provision of publishing educational materials accessible freely under some licenses from all over the world. Tech – enabled open educational resources (OERs) is a process of creating resources and sharing it effectively, efficiently and expeditiously for education and learning purposes. The potential of open educational resources, to make quality learning materials available at low cost has attracted the support of donors that wish to increase access to education worldwide(Daniel, J. et al, 2008, p.30). Given the 21st century learners' aspirations, expectations and needs for quality teacher education, the tech-based open educational resources are widely getting momentum. Besides, tech-based open educational resources constitute a significant learning resource and knowledge repository supporting access to data, information and knowledge for all.

The term "open educational resources" was first adopted at UNESCO's 2002 forum on the Impact of Open Courseware for Higher Education in Developing Countries(Johnstone, Sally M., 2005). Numerous studies reveal that the open educational resources have to be created, shared and pursued on priority basis using cost-effective web based technological connectivity.

The teacher educational institutions have to bring in the tech based open educational resources through innovative content generation technologies in the 21st century learning environment.

Tech-Enabled OERs

- Enhanced accessibility
- Greater flexibility
- Quick access and delivery of learning resources
- innovative technologies
- use of userf friendly ICT tools and applications
- available anytime, anywhere
- ensuring Learners' participation adequately
- attaining minimum level of learning
- public scutiny of web based learning resources
- Focus on standard s of education

Figure 2: Tech - Enabled Open Educational Resources

Figure 2 shows the distinguished features of technology driven open educational resources for quality teacher education which is the need of the hour. Aiming towards gaining more from technology for optimum results needs to be our immediate focus(D'Souza, M.J.S., 2012, p. 11). Tech - enabled open educational resources are perceived as an effective transactional mode for a relatively large and growing number of users i.e. learners and thus the institutions have unequivocally recognized the rationale of technology driven initiatives resulting in greater involvement, enhanced accessibility and more importantly quality learning materials.

Enhancing Teacher Education through Tech-Enabled OERs

There is a strong felt need to explore the potentials of new ICT and its many ramifications beyond the traditional role i.e. using as a tool in the real classroom situations. Due to exponential revolution in ICT and its many ramifications, the institutions of teacher education provide rather enhanced opportunity of interactivity embedded with synchronous and asynchronous learning resources. Technology is, by definition, a means to an end, not an end in itself(Bates, A.W., 2000, p. 45). In the context, the relevance of tech-based open educational resources is augmented by the support mechanisms for an individual's life with adequate cognitive skills, insights and problem solving abilities and more importantly know-how.

UNESCO, 2014 reiterates that "Easy to use and affordable, mobile telephones, tablets and portable computers have significant educational potential, especially in regions with insufficient traditional educational resources"(UNESCO, 2014, p 01). Moreover, while looking to the outreach capabilities web based new instructional strategies and pedagogical practices can

empower institutions of teacher education towards participatory, outcome – oriented and more importantly quality teacher education.

Key Challenges

There are many challenges in the pursuit of open educational resources especially when it comes to technology integrated instructional initiatives; a few of them are as follows:

- establishing technology enabled infrastructure,
- adopting more accessible approaches to instruction,
- applying instructional strategies suitable to the diverse learning groups,
- prioritizing institutional policies for technology use,
- availability of adequate hardware, software and other applications,
- cutting the cost of teacher education,
- integration of feasible technologies in day to day instructional practices,
- maximizing instructional variation, and
- tech - based training of teachers, trainers and other instructors.

Given the current teacher education scenario, there are many more challenges which need to be addressed on priority basis. This may require well – tried strategies such as technology integration policies, infrastructure, monitoring agencies and other administrative inputs. With the adequate technology integration strategies, the movement of open educational resources needs to be accelerated.

Conclusion

The issue of tech-enabled open educational resources assumes significance when institutions of teacher education take into account not only the technological imperatives but quality perspective to advance instruction, commensurate with the global outlook. In this backdrop, these institutions of teacher education through creating, sharing and pursuing open educational resources have to reach the diverse learning groups and addressing heterogeneity in the context shall be praiseworthy and commendable. It is hoped that the institutions of teacher education both public and private would show required interest in integrating technologies to not only sustain but also as a mission to promote open educational resources suited to a largely growing

heterogeneous groups. With effective and viable strategies under various establishments the idea of providing open, accessible and quality education may sooner or later get currency.

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