A MOOC in Educational Technology – Student Teacher Experiences

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Abstract:

A MOOC is a model for delivering learning content online to any person who wants to take a course with no limit to attendance. A MOOC in Educational Technology was developed by the researchers and was implemented on student teachers in order to understand their views about the same. This article discusses the findings of this study. The methodology used was mixed methods, aimed at understanding the perception of student teachers with respect to MOOCs, through its qualitative phase. The study made use of the phenomenological approach. The sample of the study were student teachers undertaking the Bachelor of Education (B.Ed.) programme in teacher training institutions affiliated to the University of Mumbai and located in Mumbai and Navi Mumbai. Participant experiences were collected in two phases. In Phase I, participants were asked to write down their experiences after they completed a module of the MOOC while in Phase II, they were interviewed face-to-face by the researchers. The data collected was, then, analyzed using the technique of coding. Findings revealed that the use of a MOOC, as an instructional technique, had a positive impact on learning.

Introduction

Teachers, by virtue of being working professionals, usually lead busy lives. However, at the same time, it is also imperative for them to keep updating their knowledge and learn about the latest developments in their field.

Considering their busy schedules, a MOOC may come to the rescue of these teachers. A MOOC is an online course that can be taken up from anywhere and at any time and at one's own convenience. However, are our teachers ready to accept this phenomenon of online learning, specifically MOOC? Are they comfortable learning through a new and unconventional technique?

The MOOC in Educational Technology, developed by the researchers, is titled *Educational Technology – Changing the Face of Education* and covers topics that the researchers, after careful analysis of available literature, believed to be of importance to future teachers before they could embark on their professional teaching journey. The MOOC consists of ten modules covering the concept of educational technology, ICT tools that teachers can use in their classroom and beyond, computer basics and necessary infrastructure, eLearning and instructional design, and modern teaching methods such as flipped classroom and blended learning, and distance education.

Research Questions

The main research questions developed for this study were:

1. Does the use of an instructional technique (in this case, a MOOC), which is different from the traditional classroom techniques, have any impact on learning? Is it a positive or a negative impact?

2. How is a MOOC, as an instructional technique, effective or ineffective?

3. Would the knowledge of educational technology help would-be teachers in planning their instructions better?

Methodology

The present study makes use of the phenomenological approach to delve deep into the experiences of the student teachers with respect to the use of the instructional technique, that is, a MOOC and its effectiveness.

Participants

Student teachers studying in the first year of the Bachelor of Education (B.Ed.) programme from teacher training institutions affiliated to the University of Mumbai and located in Mumbai and Navi Mumbai.

Data Collection and Analysis

Participant experiences comprised the data in this study. These experiences were collected in two phases. In Phase I, participants were asked to write down their experiences after they completed a module of the MOOC. In Phase II, participants were interviewed face-to-face, and, in some cases, via the telephone. Two interview schedules were prepared – one for those teacher trainees who had completed the course and a second for those who were yet to complete the course. The technique of coding was, then, used for analyzing the data received from the two data sources.

Findings – Arriving at the Theme

The findings are in the form of the codes and categories generated from them. The table here represents the same.

Table 1 The Codes and Categories Generated from the Qualitative Data Collected in the Present Study

Category: Increased Learning Outcomes	
Code	**Data**
Revision	*revised my basics* *rewind previous knowledge* *brush my memory* *revision* *good revision*
Knowledge building	*added to my knowledge* *add on to my earlier knowledge* *anything that adds to my previous knowledge makes me more happy because it makes me a more knowledgeable person* *extra knowledge* *enhanced my knowledge of educational technology*
New learnings	*was not aware about such a deep meaning of education* *gave me more details* *eye opener* *many unknown facts . . . definitely increased my knowledge* *certain things which I wasn't aware about* *gave me more knowledge* *got to learn new concept of gamification* *something new was known* *I enjoyed the learning process . . . I gained knowledge more than my expectations* *made me more curious* *new tools we came to know about* *I could gain knowledge because I have absolutely no knowledge in ICT.*
Category: Effective and Interesting	
Code	**Data**
Comprehendible	*simple and easily understandable* *simplified and correct amount of information*

	very clear and well-explained in detail
	very simple manner
	explained effectively
	came to learn about it in depth
	well-compiled
	it would also help a layman
Beneficial	experience was good / nice / very good / enjoyable / pleasant / fantastic / amazing / satisfactory
	informative / educative / relevant / interesting / effective / important / insightful / useful / truly helpful/ very apt / justified
	thank you for updating me
	good experience of learning online
	motivation . . . I have to be tech-savvy
	very effective way of learning
	made things easy for me
	I was really happy with it; I felt it was something really worth investing time into.
	happy to be part of it
	definitely going to benefit me
	very basic yet vital
	extremely helpful in our teaching careers
	A few of us actually discussed and decided to take printouts.
	systematically done; for me, it worked
Time-saving	pretty quick and nice
	information to the point
	sufficient enough
	necessary information in short words
	short and simple
	going smooth; it wasn't taking time
Novelty	descriptive and innovative
	new and entire different experience
	learn something in a new way
	unique
	aroused curiosity
Attraction	like the way you explain and segregate the content, support them with videos and other blogs
	videos were very apt

	diagrams were creative and very useful
	complex terms were easily explained and pictures added to the experience
	pretty impressed with the way it was structured
	presentation was impressive, pictures you had put, relevant
	beautifully crafted
	It attracted me; I went on and on.

Category: EdTech is Essential

Code	Data
Teachers of tomorrow	imperative for us to be aware of as future teachers
	e-learning helps me in my future, in fact, anytime and anywhere
	As being a future teacher, I can use these methods in my lesson plans.
	future road ahead with respect to teaching
	surely going to be useful in the future
	I can use in my profession.
	The new technology is very useful to me as a future teacher.
	For teaching profession, this is a must.
	This will definitely help in the long run.
	adding value to my career
	It will be helpful forward because there are new technologies which have to be used in the classrooms.
Applicability	I came to know how I can combine education with technology.
	We teachers can use these tools for more understanding of the subject.
	how I can make use of various tools in my classroom to make my teaching effective
	I shall definitely try and use these in my teaching.
	The earlier we harness the benefit of e-learning, the better it would be.
	Very helpful, especially in making lesson plans for teachers.
	help me learn different learning styles
	ADDIE part, I started planning things according to that concept
	From that time, I can use YouTube, TeacherTube to

	learn more things.
Improve teaching-learning	helps to improve teaching-learning process in effective ways
	gives me different ideas to make my classroom effective, innovative
	I learned the importance of using technological tools in classroom so as to meet the needs of the learners and provide them with authentic learning experiences.
	It will give them the benefits of implementing it in the classroom and make learning diverse and better.
	foster human learning process
	Modern technology always enhances the teaching-learning process and it is very essential for today's generation.
	should be an integral part of teaching-learning process
	make our sessions more interesting
Engage students	Through technology, students get more interest in studying; they will not feel bored of study.
	best way of engaging students and it makes boring lectures interesting and worthwhile
	providing holistic learning process
	I would know what technology to use so that my students understand.
	You have to use technology in order to attract students.
Innovative Tools and Techniques	I got to know about IWBs and how it can be used in classrooms. / information about IWBs was amazing
	One comes to know about the different tools that can be used in the classroom, which is truly, very essential
	gave me knowledge about MOOC, which I think is necessary to know as a teacher
	information on LMS and MOOC is helpful
	PC is one of the most important tools for teachers
	Teacher can use Internet in the classroom.
	e-learning and e-inclusion is much more important in the classroom.
	Flipped classroom, blended learning, and gamification are norms of the day in the educational field.

The codes and categories generated led to the arrival of the theme of ICT integration in teacher training. The figure depicts the arrival at this theme.

Figure 1 Arriving at the Theme of ICT Integration in Teacher Training
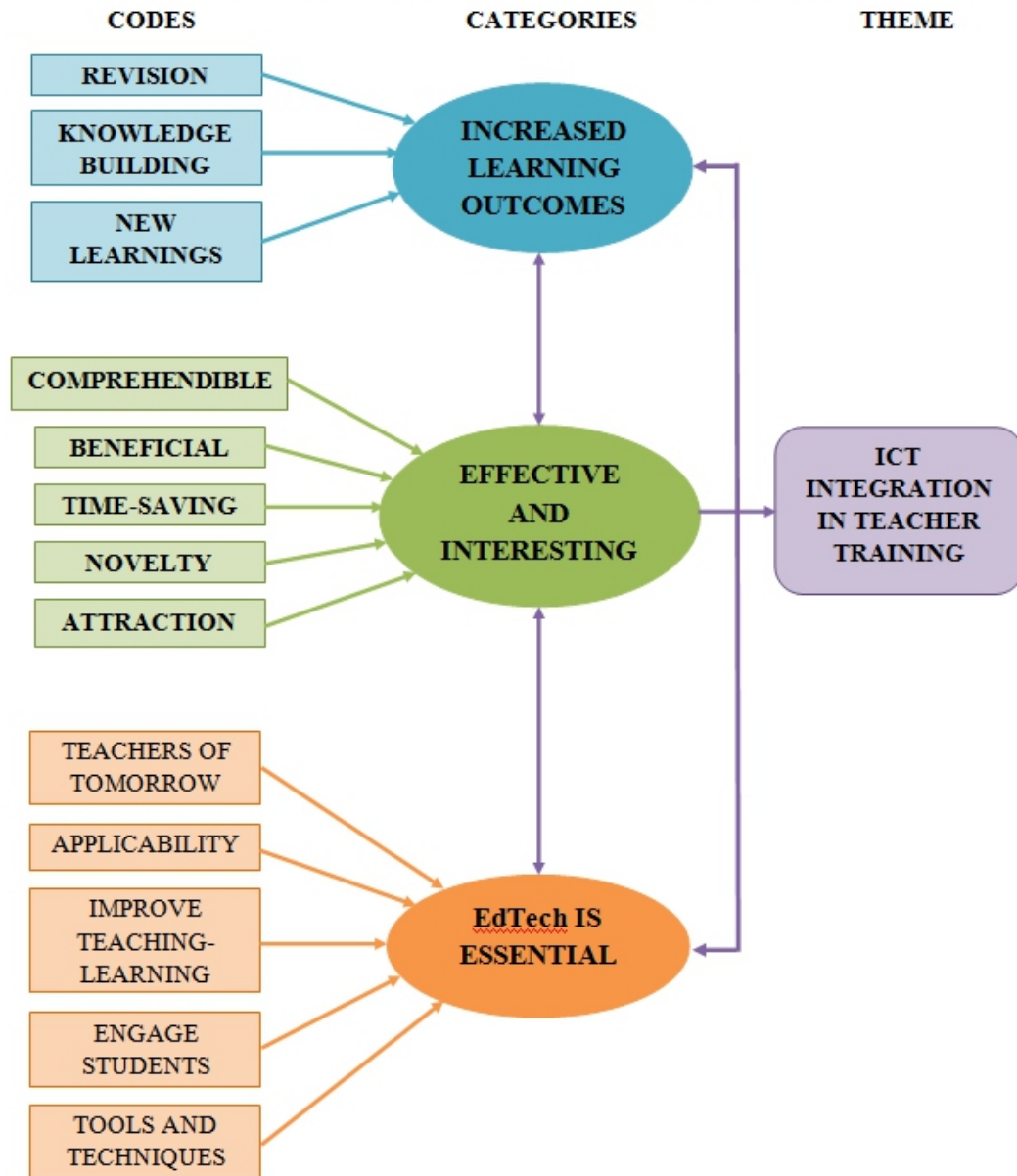
Answering the Research Questions

With the help of the codes and categories generated from the qualitative data, the researcher arrived at the theme of "ICT Integration in Teacher Training." With this, it was now time to answer the research questions that the researcher had come up with.

Does the use of an instructional technique (in this case, a MOOC), which is different from the traditional classroom techniques, have any impact on learning? Is it a positive or a negative impact?

Studying the codes generated from experiences of the student teachers, who participated in the MOOC in Educational Technology, it can be said that these student teachers had quite a good overall experience. In terms of learning, it can be seen that there was increased learning; this can be seen in terms of the fact that the MOOC not only helped the student teachers revise their previous knowledge but also build upon the same and enhance it.

From their experiences, it can be seen that they learned new things as quite a few of them have said that they were not aware of several things before undertaking this MOOC. A few have also said that the MOOC was an "eye opener" and "I could gain knowledge because I have absolutely no knowledge in ICT."

Moreover, the student teachers could take up this MOOC at their own convenience, there being no deadline. Thus, it can be said that the use of MOOC as an instructional technique did have a positive impact on learning.

How is a MOOC, as an instructional technique, effective or ineffective?

Considering that the MOOC used in this study had a positive impact on the learning of the participating student teachers, it can, therefore, be said that the MOOC as an instructional technique is quite effective. The category, which the researcher arrived at after considering the various codes generated from the qualitative data obtained from the student teachers, is that the MOOC was effective and interesting.

The MOOC proved to be comprehendible in terms of "being simple and easily understandable," "very clear and well-explained," and "also help a layman" to quote a few participant experiences. It was also confirmed to be beneficial; one participant said that it acted as "motivation" to become tech-savvy while one said that "a few of us actually discussed and decided to take printouts." Someone also pointed out that it would be "extremely helpful in our teaching careers."

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Another factor that could be said to contribute to the effectiveness of the MOOC as an instructional technique was that it was time-saving. This was found to be with respect to it being "pretty quick," providing "necessary information in short words," and it "going smooth and not taking time." The participants also found the MOOC to be novel and attractive. While one participant said that they "learned something in a new way," another said that it "aroused curiosity." Participants, from their narrations, were found to be happy with the structure and presentation of the content as well as the videos that were used.

It can, thus, be said that this MOOC, as an instructional technique, was effective.

Would the knowledge of educational technology help would-be teachers in planning their instructions better?

Going with the participant experiences and the codes generated, yes, the knowledge of educational technology will help would-be teachers in planning their instructions better. The fact that these are teachers of tomorrow, the participants believe that it is "imperative for us to be aware of as future teachers." Most believe that it will "add(ing) value to my career," and "For teaching profession, this is a must." One participant has also pointed out that "As being future teacher, I can use these methods in my lesson plans."

As a matter of fact, the participants also see and realize the potential of using educational technology and ICT in their teaching and believe that it will improve the teacher-learning process by helping "meet the needs of the learners and provide them with authentic learning experiences" and "make learning diverse and better." Knowledge and use of educational technology will, therefore, engage students.

Some of the tools and techniques that the participants said that they should know about are the interactive whiteboards, basics of computer, Internet, e-Learning, learning management systems, massive open online courses, flipped classrooms, blended learning, and gamification. They considered these essential along with the other regularly used tools and technologies in teaching-learning.

Conclusion

In conclusion, it can be said that student teachers are open to MOOCs as an alternative instructional technique while also believing that a deep knowledge of educational technology is an important tool in their kit. They are open to learning, changes, and transformations that will equip and prepare them for the coming times.

The theme of "ICT Integration in Teacher Training" that the researcher arrived at may, therefore, be considered as the need of the hour. ICT integration in teacher training is a must to prepare teachers for the 21st Century learners and classrooms.

References

Cresswell, J. and Plano Clark, V. (2011). *Designing and conducting mixed methods research.* (2nd ed.). Los Angeles: SAGE Publications.

Pandya, S.R. (2013). *Educational Research.* New Delhi: APH Publishing Corporation.

Bhattacharjee, B. and Deb, K. (2016). Role of ICT in 21st Century's Teacher Education. *International Journal of Education and Information Studies*, *6(1)*. (pp. 1–6). Retrieved July 24, 2017 from https://www.ripublication.com/ijeis16/ijeisv6n1_01.pdf

Smith, J.J. and Greene, H.C. (2013). Pre-service Teachers Use E-Learning Technologies to Enhance their Learning. *Journal of Information Technology Education: Research*, *12*. (pp. 121–140). Retrieved July 24, 2017 from http://www.jite.org/documents/Vol12/JITEv12ResearchP121-140Smith1223.pdf

Punia, Y. (2017). Supplementing the Pre-service Teachers' Training through MOOCs. *Voice of Research*, *5(4)*. (pp. 15–16). Retrieved July 25, 2017 from http://www.voiceofresearch.org/doc/Mar-2017/Mar-2017_5.pdf

Goswami, C. (2014). Role of Technology in Indian Education. *International Proceedings of Economics Development and Research*. 79(2). (pp. 6–10). doi: 10.7763/IPEDR. Retrieved May 24, 2016 from http://www.ipedr.com/vol79/002-IC4E2014-1-003.pdf

Hicks, K. (2015, March 3). *Why MOOCs are Great Teacher Development*. Retrieved July 10, 2017 from http://www.edudemic.com/5-moocs-educators-should-take-as-students/

Bose, S. (2010). *Enabling Secondary Level teachers to Integrate Technology through ICT Integrated Instructional System.* Retrieved from the ERIC database. (ED511722)

Goto, J., Batchelor, J, and Lautenbach, G. (2015). MOOCs for pre-service teachers: Their notions of 21st Century Learning Design. Paper presented at IST-Africa Conference. DOI: 10.1109/ISTAFRICA.2015.7190556. Retrieved July 25, 2017 from http://ieeexplore.ieee.org/document/7190556/

Kupathil, K. (2015, November 11). *Teachers, tablets, and technology: what India's education truly needs*. Retrieved July 26, 2017 from https://yourstory.com/2015/11/india-education-needs/

Saldana. (2008). *An Introduction to Codes and Coding.* Retrieved July 27, 2015 from http://www.sagepub.com/sites/default/files/upm-binaries/24614_01_Saldana_Ch_01.pdf

Taylor, C. and Gibbs, G.R. (2010). *How and what to code.* Retrieved July 27, 2015 from http://onlineqda.hud.ac.uk/Intro_QDA/how_what_to_code.php

Philomina, M.J. and Amutha, S. (2016). Information and Communication Technology Awareness among Teacher Educators. *International Journal of Information and Education Technology, 6(8)*. (pp. 603–606). DOI: 10.7763/IJIET.2016.V6.759. Retrieved August 9, 2017 from http://www.ijiet.org/vol6/759-IT325.pdf

Bidaki, M.Z. and Mobasheri, N. (2013). Teachers' Views of the Effects of the Interactive White Board (IWB) on Teaching. *Procedia - Social and Behavioral Sciences, 83(4)*. (pp. 140–144). Retrieved August 9, 2017 from http://www.sciencedirect.com/science/article/pii/S1877042813010574

Chen, I. and Kidd, T.T. (2010). Wired for Learning—Web 2.0 for Teaching and Learning: Trends, Challenges, and Opportunities for Education. *Human Performance and Instructional Technology*. (pp. 119–129). doi: 10.4018/978-1-60566-782-9.ch007

Rallis, H. (2000). Using Computers to Assist in Teaching and Learning. Retrieved August 9, 2017 from http://www.duluth.umn.edu/~hrallis/guides/computerideas.html

Nagasampige, M., Subbaiah, G.D., and Nagasampige, K. (n.d.). *MOOCs in Indian University Education System: A Study on Awareness and Motivation among Students and Teachers of Indian Universities*. Retrieved July 29, 2017 from http://www.scdl.net/InternationalConference/PDFS/DigitalProceeding/T-Dr%20manojkumar%20nagasampege%20Gayatri%20Devi%20Full%20Paper.pdf

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