RESEARCH ARTICLE

PRE-SERVICE TEACHER EDUCATION AT THE TIME OF PANDEMIC: CHALLENGES AND OPPORTUNITIES

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ABSTRACT

With the arrival of an unanticipated and unprecedented situation of COVID-19 several things underwent major changes which include the education sector as well. The entire educational activities have been shifted to the online mode with a number of changes in the teaching-learning processes. Along with its advantages this sudden change has brought in a number of challenges with it. But those advantages and challenges differ from person to person and from one course to the other. The teacher education is one of those courses which has significant applied component in it. The practice component plays a very vital role in teacher education courses. The actual practicum or the internship component is hardly possible to be done online. Therefore, the challenges that the student-teachers and teacher-educators are facing in current times are quite disparate as compared to the other theory-based courses. Though online education is very flexible in terms of time and cost it has not escaped from its challenges. Having the knowledge of the effective usage of technology is a prerequisite for any kind of online learning. The study gives an account to the possibilities and challenges of teaching teachers online.

INTRODUCTION

COVID-19 pandemic has brought an extraordinary situation in the world which has greatly affected the education system worldwide. This led to the closure of schools and colleges for a longer time which has a detrimental effect on the life of students and teachers in the entire world. In order to overcome or at least to lessen its effects, the traditional activities in the education system have been replaced by online education for the time being. As it is said rightly that 'everything has its own pros and cons' the introduction of online education has also carried with it a number of possibilities as well as the challenges. The preparedness, knowledge of technology, access to internet connectivity etc. are some of the prerequisites of online education the availability of which would make it successful and the lack would create certain challenges. There are several courses which are applied courses and teacher education is one such applied course. So there are generally a set of challenges in online mode of teaching and learning, but there are specific challenges with applied courses. In the case of the teacher education that applied part is even more precarious because here a student teacher has a situation where

she needs to go and teach in a classroom and now the entire setting of the classroom has suddenly changed. Curriculum and the entire theory component are not prepared to adopt that change. The entire theory part is geared for teaching happening in a real classroom situation where face-to-face interaction is the primary mode of interaction in which other TLMs are just a part of that like the use of computers etc. Online was rarely used and may be one of the options but not a very frequently used option in the regular or the traditional mode of teacher education. But now online has become so central to the teaching-learning. This intervention has brought in a very new and a challenging situation for the curriculum designers, planners, teacher educators, administrators and more so for the student teachers. The student teachers' dilemma in the current mode of teaching-learning is worth looking at as 'they will become future teachers in classrooms where they have to interact face to face with student, but getting trained through, in and for online classes. Hence there would be obvious concerns around their current mode of training or teacher education and the future engagement with students. Therefore, the point of convergence for the study was to look at those challenges and possibilities that are associated with the online mode of

teaching and learning in a pre-service teacher education program in terms of the curriculum, technology, pedagogy etc. A case study was done in the during the pandemic period (2020), to try and collect the opinions of both the teacher educators as well as the student teachers on how they are dealing with the online classes given all the other barriers like technology/internet, availability of other gadgets like computers, smart phones Etc.

Research Questions

* What are the challenges and possibilities related to the curriculum and the older syllabus of a teacher education program?
* How could the practical/internship component of the program be dealt online?
* What are the challenges and possibilities related to pedagogy?
* What are the technological challenges?
* What are the challenges related to the feasibility or the accessibility of resources required for online teaching-learning?

LITERATURE REVIEW

Digital culture or the era of computer technologies has transformed our ways of living. The use of computers, smart phones, televisions, tablets, laptops and other gadgets come under the making of this technology culture (Guragain, 11 February 2016). It has found its unique space in the field of education too. As a part of India's 'right to education for all commitment', it is found that there is a colossal need to apprehend the importance of 'information and Communication Technology' in the teaching-learning process in order to develop 21st century skills (Byker, 2014). ICT has become an important part of our education system in today's times. Research shows that the use of ICT in classroom teaching has a positive impact on students' achievements. It gives an opportunity for creating active and collaborative learning as it connects us with the people around the globe (Budd, 2001).

It enhances the effectiveness of the learning and adds a value to the process of educating children. The cultural beliefs about teaching, teachers, learners, nature of relationship between students and teachers, the knowledge etc. influence the spread of technology in schools (Devaki, 2018). Despite having a number of advantages there are disadvantages or the barriers in respect of the integration or the usage of technology in the educational set ups. The opportunities provided by ICT in the schools/colleges to support the teaching-learning are not problem free. The access to technology itself is a bigger concern altogether(94% kids surveyed in 4 states don't have smartphones or internet access for e-education: CRY, 2020). The lack of skills like process and the knowledge of effective usage of information technology makes it difficult to find success with ICT integration (Salehi, 2012). Using computers and technology is one of the means to the entire process of teaching-learning but not the end because "technology is just a tool to connect us with various learning communities together in a new and a different way" (Earle, 2002). An effective utilization of technology in the field of education would surely bring in several transformations and has shown its positive

impact on student-learnings. Technology will have a positive impact 'when the right conditions are in place' (Honey).

Hence, ICT as a means plays a vital role in transforming our system of education. But 2020's pandemic has brought in newer situations to the world where there is a necessity to switch all the face-to-face classes to the online mode. "The closure of schools and other learning spaces has impacted 94% of the world's student population and up to 99% in lower and middle income countries". 2020 has marked the largest disruption of education in history having impacts on teachers to learning at all the levels of education around the world. (Policy Brief: Education during COVID-19 and beyond, AUGUST 2020). In this situation the usage of handheld technological tools like computers has become the sole means to take the educational activities further. Students and teachers are separated by their geographical locations, hence distance education came in contact where learning is supported by communications and technology (Appana, January 2008). Application of ICT to the core business of education became the prerequisite in current times (Moorhouse, 2020). "Today online education has forced-fed to Indian education as a miracle cure at all levels for all tasks" but it can just be a supplement to the face-to-face education but not the substitute (Deshpande, 2020).

Online teaching-learning is vastly spreading in colleges and universities. 'Online courses are those which are offered partially or completely over the internet' (Erin Gillett). The advantages of online education are encouraging a large number of the population in the world. But without having a glance at its disadvantages one may not conclude whether online education is effective or not. Since the traditional face-to-face teaching-learning has been replaced with online teaching-learning for the time being, the role of students and the teachers have been changed (NíShé, 2019). In present time the traditional teachers are forced to teach in online mode though they are not trained for online. Teachers are in a unique position who have a direct impact on their students (Healy M). Hence for the teachers to stay up to date with the current changes in the system is quite necessary for an effective outcome. Thousands of new teachers enter the profession of teaching every year (Hammond L). The online education is relatively a newer area and skills required for this area of teaching-learning are very different from the traditional face-to-face teaching. Preparing teachers for the upcoming challenges in the field of education with those required skills has become an imperative norm. In these uncertain times technology is given as a therapy to the universal closure of schools and colleges in the world. Resuming educational activities through online sources has become the sole means to give a restart to the education industry (Edeh, Micheal, Onyema, 2020).

METHODOLOGY

The study was conducted to understand how pre-service teacher education programs are dealing with the complete online or virtual classes due to the nationwide lockdown in this pandemic situation. Covid-19 has given a new shape to the whole education activities, hence this study was done to understand how specifically future teachers are being taught through the online mode of education.

The nature of the work was majorly mixed in nature, i.e. both qualitative and quantitative. In order to get a sense of the experiences of student-teachers and teacher-educators with online education a case study was conducted on a pre-service teacher education program (B.Ed.) of Murshidabad, West Bengal. The semi-structured telephonic interviews along with written survey were conducted with 20 student-teachers and 8 teacher-educators. To understand their responses and to go into the depth of the research questions some of the classroom observations were made which gave the study a meaningful path to understand the real concerns. Several informal talks with the participants throughout the study has added value to the study in getting to know their opinions of online education.

FINDINGS AND DISCUSSION

The study delineates some very important and thought-provoking aspects of 'online teaching-learning'. It brings forward several challenges and possibilities that student-teachers and teacher educators have undergone/are undergoing in online education. There are certain different broad categories under which the challenges and the possibilities can be recorded, occurred in a teacher education program, viz. a) infrastructure; b) digital literacy; c) adaptability; d) financial concerns; e) career concerns etc. All these are perceived differently by student-teachers and teacher-educators. This report will review the challenges and possibilities of e-learning from two different perspectives viz. 1) Student-teachers 2) Teacher educators.

Student-teachers' attitude towards online learning:

Possibilities

Flexible in terms of time and affordable in terms of cost: Pre-service teacher education aims at preparing the student-teachers for different aspects of the role of a teacher. Specifically, B.Ed. is a full-time course where students get trained to become professional teachers that consists of both theory and practice components. But at this point in time all the full-time courses have been shifted to online mode as the present condition doesn't allow for taking physical or in-person classes. The present time education is supported by communications technology like computers, television, emails etc. where learning is not possible in traditional ways (physical classrooms). It emerged as a 'lifeline' (Student Teacher -1, Student Teacher will be referred as ST henceforth.) when the entire learning set up was about to get a full stop. Everyone who was worried about the 'learning loss' started seeing a new hope in online or e-learning. It makes the learning possible from where we are and at the time we want. It clears away several restrictions that we have in traditional classrooms like time regulations, space specificities etc. In fact, many have acknowledged that e-learning is very flexible in terms of time and place. One of the other most important things discerned is that "it reduces our workload in some ways" (ST 4). As one of the student teachers said "we don't need to keep a separate pen and paper to take notes of the class or any of our readings and we don't need to keep hard copies of the books and other reading materials, one device holds everything that we need. We can download the softcopies of the books and record all our notes in one single document" (ST4). The cost effectiveness or the affordability of it is an increasingly recognized fact.

Those who cannot afford the educational expenses can easily get access to those required materials online. One of them very rightly says that "it basically is emancipation for all those education seekers who want to get education but have some constraints in opting it" (ST3). Notably it has created a global platform for teaching-learning where we connect to people worldwide. Online medium is free from economic, social, religious, cultural and specifically age related barriers where everyone irrespective of their backgrounds can come together and acquire educational skills. There are thousands of websites and channels through which we can get a number of videos and articles to read and strengthen our knowledge. There are age-related restrictions in the traditional education system that are eliminated to some extent in online education. There are instances of how parents and grandparents are getting educated through the online classes of their children in present times ("my parents often sit with me during the class and feel happy on getting learned some new things from my teachers": ST2) . One platform, one class and innumerable beneficiaries. Hence it "caters to equity along with providing quality based education" (ST7) by giving the audience an option to choose as per their need. Online platform is a 'freedom' (ST3) to everyone who cannot afford education in traditional mediums or ways particularly for girls whose parents hesitate to send them outside for further studies. Therefore, it somehow helps in overcoming all those barriers we have in relation to gender, religion, culture and particularly the 'age' in getting access to education.

Challenges

Spatial diversity, infrastructure and inclusiveness: There are several aspects of online learning that explain why it is or it can be a greatest revolution in the current education system. But besides having a number of possibilities or the advantages the online education has certain limitations of its own. One of the basic necessities of online mode of education is the internet connectivity. Without having a strong internet connection, it is nowhere possible to access online education. A giant percentage of students in the institution are from marginal sections of the society or are from rural parts of the country. At present when all of them have sent home due to the nationwide lockdown, they are facing a lot of issues in getting access to the online classes because of no or a weak internet connectivity. 'Electricity also becomes one of the major concerns in the remote areas of the country' (ST9) that restricts the process of learning. In the light of developing countries like India there certainly have limitations as far as the bandwidth connection and technical assistance are concerned. More so not all students have access to smart phones and laptops. Hence the availability of required gadgets like computers, laptops etc. is quintessential to enjoy the advantages of online education.

Digital literacy and technical glitches: Along with the gadgets and connectivity, there are other concerns too at the student-teachers' end. The majority of the students are not so used to the technological medium that 'contains unique formats and symbols'. The applications used for the sake of classes like 'zoom', 'WebEx', 'Google meet' etc. were not known to them prior to the beginning of the class. 'The availability of adequate guidance or the technical and moral support on its usage is a compelling need for one to be able to understand it better' (ST 7). A Large part of the students' body has complied that the operation of the initial part of their classes online was a great loss of their entire B.Ed. program.

"Until I learned the usage, the classes for the semester were over" (ST 9). The beginner needs a little time to understand all these things for which adequate support is needed from concerned knowledgeable people.

Compromise with curriculum: Hence not getting to learn in the current semester would cause difficulties in the next semester. Apart from all these very general concerns there are a few other particular issues too at the level of curriculum and the syllabus of the course. The curriculum that was designed for the purpose of face-to-face classes was/is continued for online classes also. Some changes were/are desired to be done as per the student-teachers keeping in mind the possible practicality of e-learning. 'Dealing with older curriculum and syllabus was/is an effortful task' (ST 3, ST5, ST6, ST7, ST15, ST19, ST20) for the student-teachers in the online learning process. The entire current syllabus is based on the theory-practice formula where equal amounts of practice should be done for the theory that one goes through. But this formula gets deteriorated when it comes to online education. Therefore as there is no possible substitute for the practice component it gets difficult to deal with the 'only theory component'. It is even difficult to study only theoretical concepts all the way throughout the semester for a course like B.Ed.

Need of the teachers, their pedagogy and its effect on the career of the student-teachers: 'Having and encouraging active interactions is at the heart of any teacher education program' where teachers learn by interacting with others and thereby practice the same (NCFTE 2010). But the learning through sound social interaction has got a shorter space in online education. Many of us often need someone to be standing on our head directing us to do our work. The people who are completely dependent on teachers and the classroom teachings are affected the most. "The availability of teachers as our guides to whom we can visit when we need them for the academic help, is somewhere disappeared to some extent" (ST 2 and ST 13). Students who are used to the hardcopies of reading materials or dependent on the physical library have suffered a lot during these times. The student-teachers in online mode are getting trained for and in online classrooms but they will become teachers in the physical or the traditional classrooms. Hence there comes 'a larger gap between their training and actual work they do in their future' (ST4, ST15, ST16). This innovation or the adoption of 'online learning' in the field of education would affect their career too. They may not get the same quality education online as they used to get in the traditional modes of education. "Job givers would prefer the quality in their employees and the incompetent ones would always stay back" (ST 7, ST 19, ST20).

Distracted home environment: Now most importantly being at home and working on academics itself is quite a difficult task for many in our generation. "Convincing parents that their child is studying on a 'mobile phone' is the toughest piece of work for many" (ST9). On one hand a number of parents often prefer their child to be helping them in their works and on the other hand a number of students do not feel like studying at home. Time management becomes very difficult at home. Hence all these beliefs may cause boredom or disturbances in their learning process.

Teacher educators' attitude toward online learning

Possibilities

New learning opportunities: A teacher educator's job is to 'contribute towards the preparation of a teacher'. The role of a teacher educator has critical importance in a teacher education

program (NCFTE 2010). Those who are prepared for teaching in physical classrooms are supposed to teach in online classes in the current time of COVID19. Some of the teacher educators find some comforts in online learning. Like student-teachers, the teacher educators also acknowledge the fact that online learning is cost-effective and very flexible in respect of time and place. With the beginning of this new medium of teaching-learning, the teacher educators "got an opportunity to learn more about technology and other media" (Teacher Educator-2, 3 & 8. Teacher Educator will be referred as TE henceforth.). There is enough time with the teachers to plan for a class as they do not physically have to go to the institution. "It helped in enhancing digital literacy by providing an opportunity to use technological tools in an effective way" (TE2, TE3). It also provides a platform to those who sometimes miss their classes due to some issues. There would often be the "recordings of the classes available in online education unlike traditional classrooms" (TE6). Like student-teachers, there are a number of challenges at teacher-educators' end also in dealing with online education. It is eminently hard for a teacher educator to have all the student teachers in an online classroom. 'Some do never join the class for some reasons like connectivity and other infrastructural issues, some forget about the class timings, some do not want to study from their teachers. Some join the classes but tend to leave after some time as they get bored of hearing the only voice for hours and hours' (TE1, TE7).

Challenges

Single mode of teaching: In online classes, the most possible mode of teaching is lecture cum discussion model but given the issues the student teachers have, it finally sticks to a lecture mode teaching only which undoubtedly creates a boring classroom environment. Therefore 'student-teachers tend to leave the classes in between which becomes a greater obstacle for a teacher educator' (TE8). In order to make the classroom more effective and meaningful, the classroom has to be an interactive one and there has to be a two-way communication between students-teachers and teacher-educators'. But the teacher-educators are still on a way of exploring the possibilities of making it meaningful for their student teachers other than just content knowledge. The study notices that somewhere there's a need for technical and moral support to both student-teachers and teacher-educators. There are a very few measures that help them build their self-confidence, motivate them, and educate them with the new inputs in the current system of education.

Technological challenge and inclusiveness: Many traditional teachers do not even know the usage of an android mobile device or a normal computer. In that case, they are completely unable to do their jobs in online education. Many are struggling with technology and its usage which has a direct impact on the future of their students. "There is a lack of skills that are required for online teaching-learning among the teacher educators which is forcing them to stay away from its complete effectiveness" (TE4). Those who knew the use of technology went ahead and did their jobs but those do not know are somewhere ignored in this global omnipresent learning process. The preparedness of a teacher and a student is a must thing to go ahead with any kind of teaching-learning process. There is also a belief that the 'need of teachers' is somewhere getting lost in this mode of education as the 'students being the one from the smarter and technology generation' (TE5) can access to a number of sources online to enhance their knowledge.

There is diversity in the institution in terms of the region, religions, caste, gender and backgrounds. All kinds of students with varied learning abilities study here. Online medium caters to the diversity of learners but in some ways it ignores those who cannot afford it or who cannot access it. In all the classes that were/are taken by the teacher-educators there is no single class where there is a complete strength present in the class. 'Almost 20% of student-teachers often stayed deprived from its access' (TE8). It is a great struggle at teacher educators' end to make sure whether at least reading materials are reaching those 20% of the population or not. Therefore, there are very less chances of the possibility of inclusiveness in online education.

Adaptability and Exploration: It is a human tendency that it takes a little time to adopt new things at once. The readiness to work towards its adaptability is very crucial. At some point in time the teacher-educators and the student-teachers both were not ready for this mode of education which itself was the biggest challenge. Hence 'the classes went as 'doing for the sake of doing' in the beginning for many' (TE3, TE6). More so at times they used to lack the motivation and lose interest in this mode of education due to its monotony or rather the lack of creativity. Since online mode of education is not a commonplace task for all the teachers, there are hundreds of hindrances or the glitches at their pedagogic level also. "The kind of pedagogy used for an in-person class is far more different from the pedagogy used in an online classroom" (TE2). It is moreover a virtual classroom of around 50 student teachers at once where 'eye contact is hardly possible'. The quality of or the 'possibility of peer learning' or group learning is quintessential for a better learning experience and to understand the society. This fragment in an online classroom considerably occupies a very less scope or it is not explored fully in an online classroom.

Social factors and interruptions: And most importantly there are social factors too causing troubles for teacher-educators. Being the elders at home or being with family and kids it is hard to keep aside a specific time for the academic purpose like earlier (9 to 5 on campus). "We cannot stop our children from playing or to talk, they move here and there at home, they shout, they fight and we cannot explain to them about our classes. Many a times this disturbs a classroom environment" (TE2). The disturbances at home will have an effect on the classroom environment in an online classroom like festivals, arrival of the guests, kids' playing etc.

Internship: "The curriculum of teacher education is broadly dealt with under foundations of education, curriculum and pedagogy and school internship" (NCFTE 2010). School internship is the most important aspect of a teacher education program which deals with curriculum, pedagogy and educational studies. This is in fact the 'soul' of a B.Ed. program, the removal of which would demolish the importance of it as a teacher education program. It is a practical component where student-teachers learn by doing or by practicing (practice teaching). The student-teachers visit the schools for a sustained period of time (say 12-20 weeks) and practice their teaching in the real classrooms so as to get hold over the actual meaning of teaching. There are several drawbacks in the current model of practice teaching like no opportunity for teachers to examine their own biases and perspectives, belief of student teachers to adjust to the school curriculum, fulfilling the ritual of delivering the required number of lessons, theoretical and quantitative evaluation of

protocol etc. (NCFTE 2010). The online mode puts fuel to the existing drawbacks of the internship component. It is hardly possible to do the internship online. The school internship program "needs to have a visit to the innovative centers of pedagogy and learning, classroom based research projects, creating and maintaining resources for teaching-learning in the internship schools, designing and organizing classroom activities, developing strategies for evaluating students' learning etc". (NCFTE 2010). Therefore, as per the stakeholders in a teacher education program, the online internship may not meet the basic requirements of the internship in a teacher education program. As per the majority of the student-teachers and teacher-educators there is a lack of possibilities of getting real life or practical experience online. If the situation continues to be online there has to be an alternative *to be explored* for the internship component though nothing can replace the actual internship.

CONCLUSION

At the end the question that appears is how likely are we to recommend online education to our next generation. Online medium is of great importance when it comes to the teaching-learning process provided the good quality internet connectivity and the availability of technical gadgets that are required. Among the participants (participated in the interviews) 38% of them concluded that online learning is better than tradition and the rest of them (62%) acknowledged that traditional learning is better than online. 100% of them believe that there are sizable challenges in online teaching-learning, 23% of them believe that along with technical issues the family disturbance is also one of the major concerns. 88% of them believe that online education has only technical limitations once those get solved it will be free from all the critiques. In terms of the time, 63% of the participants believe that an online class requires the same time as the face-to-face class to teach a particular concept. 25% believes that online class takes more time than a face-to-face class whereas 12% of the population believe that online class takes less time than a face-to-face class. 80% of them have admitted that online learning would reduce the inequities among students of diverse socio-economic backgrounds whereas the rest of 20% believes that it will magnify the inequities among students.

Among all the participants 75% of those have concluded that providing technical support and training on its effective usage to both student teachers and teacher educators would improve the online mode of teaching-learning. 25% of them concluded that along with providing training to the teacher-educators pre-designed studios with suitable background and atmosphere for online teaching-learning would improve the online learning process. However all of them believe that, in terms of its complete efficiency, the teaching-learning process is neither possible purely online nor purely traditional. Given an option of blended learning i.e. both traditional plus online (a mixture of online and offline) is an advanced and most preferred choice by all. Therefore, the education in the virtual world brings in certain concerns with it that differ as per the students' and teaches' regional, religious, social, economic and cultural backgrounds. A teacher education program is yet to get acquainted with the online mode of education and yet to explore certain things in respect of its practicality since there

are a very few examples of the measures taken for the preparation of teachers for and in online environment.

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