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A PARADIGM SHIFT OF TEACHING LEARNING PEDAGOGY IN POST COVID-19: PERCEPTIONS OF PRE-SERVICE TEACHERS

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Introduction:

The years 2020 & 2021 were a tough time for the most sphere of the world due to COVID-19 pandemic. The education was one of most important area which severely impacted; from reopening of the schools to running online classes (Reid, 2020). Most of the institution were not equipped with technological resources to overcome the challenges of the online teaching and learning however, the teachers' community has given a much effort to minimize the challenges at all level and adjust themselves with the new way of teaching learning pedagogy that reduce the minimum loss of education. By the use of technological knowledge and skills, teachers have given guidance to students in their learning and provide an implicative way of support of to their educational organization to overcome the challenges of pandemic. Teachers explored a lot of knowledge and skills of digital pedagogy and find out a new way of teaching learning strategies to adopt the online mode of instruction in covid-19 pandemic.

In pandemic of COVID-19, many technological tools/applications, social networking sites and online platforms/portal for digital teaching learning has been evolved and its make easy for teachers and learners in continuing the teaching learning process in such pandemic situation where everybody were locked in their houses. Teachers joined many webinars and training programs/workshop for learning a new domain of digital pedagogical processes based on digital, online, virtual and distance mode of teaching learning and try to improve their digital professional knowledge and skills. However, due to lack of infrastructures like digital appliances like laptop, tab, and mobile phones, internet facility and electricity in rural and remote areas, teachers were helpless and schools were continuously closed and learning of students were lagged behind during pandemic of COVID-19.

However, a recent circular by UGC envisaged that Higher Education Institutions should teach any courses by 40 percent online and as 60 percent offline learning. This concept also emphasised that adoption of digital pedagogy, which will be pave the way to increase student teacher interactions with improved learning outcome in flexible teaching learning environment.

Review of related Literature:

Pokhrel and chhetri (2021) highlighted that, COVID-19 pandemic created large devastation in education system in human history, 1.6 millions of learners and approximately 200 countries were affected. There was a fear of losing 2020 academic year or even more in the coming future. The academia understood about the need of the hour is to innovate and implement alternative

educational system and assessment Plans to overcome that situation. Hence, the COVID-19 pandemic has offered us with a chance to pave the way for introducing digital teaching learning. Singh, Steele and Singh (2021) studied a SWOT analysis of hybrid and blended learning and envisaged that COVID-19 pandemic situation promote innovation and make a chance of out-of-the box thinking in educational settings. It also provide meaningful and engaging learning experiences to students, instructors and academic administrators have to focus on building appropriate infrastructure to support hybrid and blended learning methods. Therefore it is need of hours to focus on capacity building of teachers, academic administrators so that they become more knowledgeable, skilled in online learning approaches, e-Learning tools, and usage of innovative technology to facilitate digital teaching and learning.

In digital pedagogy, blended learning is an innovative pedagogy comprises with online and face to face mode of learning. This new way of learning is a blend of the traditional learning with online teaching learning/activities through the use of digital techniques which fasten the learners' concerns more successfully than simply anyone of them. Therefore, Blended learning approach is becoming increasingly relevant digital learning pedagogy in the post COVID-19 which will be maintain the loss of students' learning brought by COVID-19 due to the lack of infrastructures and technological resources. Even though the interpretation of Blended Learning (Graham, 2006) and Flipped Learning (Bergmann & Sams, 2014) are different but most of the things are common. Blended learning is a learning pedagogy in which amalgamation of traditional learning with online learning during classroom teaching whereas flipped classroom is a preparedness digital as well as offline support before taking the class of students therefore flipped classroom is also part of blended learning where students are actively involved in doing the work on preassigned task and aware the concept /information afore attending to class. In blended learning pedagogy, the teacher roles are facilitator and guide, students are active learners (Glaser, 1984).

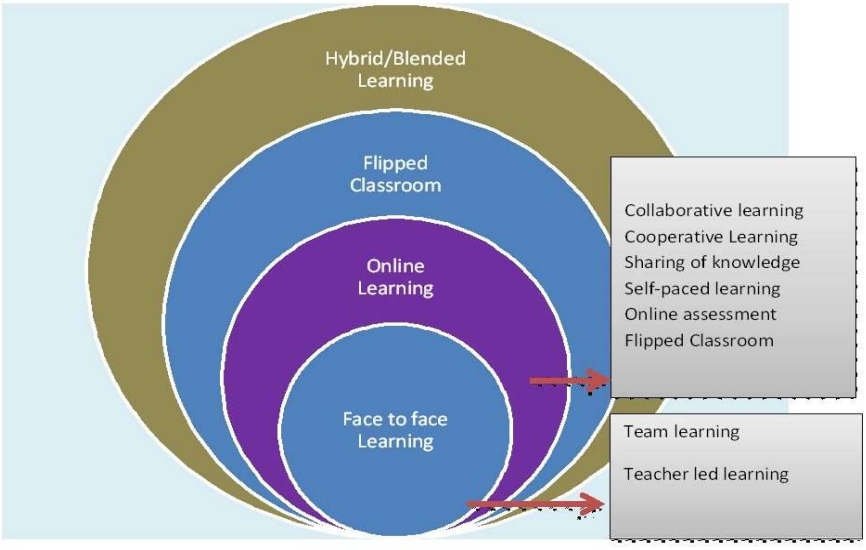

Figure: 1 blended learning support system

According to Bhatia, H. K. (2012), Blended learning is a combination of face to face and online instructional strategies. However, blended learning is not merely online activity with traditional, face to face learning but it requires an integrated approach. Blended learning overcomes the barriers presented by limited resources, time constrains and budget pressure. According to Slomanson (2014). Blended learning organized by flipped classroom, where students retrieve information related to given concept afore to classroom. There are several blended learning approaches in which cooperative learning, collaborative learning and flipped classroom are more successful.

Rationale of the Study:

COVID 19 pandemic has been a disaster for the world; continuing taking billion of lives all around the world, but it have also proven to be a blessing in disguise pertaining to the much needed push towards the digitization of Education system pedagogy in India. The classes all over the world have taken place in online mode. Digital pedagogy has been evolved. The availability of distance mode of education has been increasing due to accessibility of technology and million numbers of learners have provided opportunities (Allen et al., 2016; Lewis & Parsad, 2008). The Government of India has taken the cognizance of the situation and call of the hour and the inaccessibility to physical classrooms is accelerating even in the revolutionary National Education Policy (NEP) 2020, which has been recently drafted with digital pedagogy at its heart. In pandemic situation across the world has led to transforming the structure and process of teaching and learning. In India the numbers of innovative pedagogy have been adopted in online teaching learning; ICT based teaching learning resources and platform (LMS, CMS, MOOCs, OERs, digital repositories, virtual laboratories; virtual augmented and Mixed Reality, etc.) these adoption come into existence by untired effort of SWAYAM, DIKHSAHA, NISHTHA, etc. under the guidance of NCERT, CIET, MHRD, others national importance institutions. The number of enrolments in online educational programs launched on SWAYAM portal by Massive Open Online Course (MOOC) has also been increasing. NEP-2020 has been also recommended on various pedagogical strategies to adapt digital pedagogy to cater the 21st century learner needs. In present scenario intervention of Artificial Intelligence (AI), cloud computing, Machine learning, AI based ChatGPT, simulation, LMS, Virtual laboratory etc. have been evolved and making sure the need of digital pedagogy in teaching learning.

Objectives of the Study:

In this study researcher try to explore and find out the following objectives:

1. To identify the digital tools/application and online resources used in online Teaching learning process
2. To study the Preservice teachers' perceptions regarding the opportunities of online learning in Post Covid-19.
3. To study the Preservice teachers' perceptions regarding the challenges of online learning in Post Covid-19.

Method of the study:

A survey method was employed to study the pre-service teachers' perceptions regarding a digital learning pedagogy in post COVID-19. The data was collected from different teacher training institutions of the country through digital social networking group. To collect data, a Google form questionnaire was employed to various groups of preservice teachers through social networking platforms. The responses of 184 preservice teachers are recorded to find out the objectives of the study. In survey, both open-ended and closed-ended questionnaires have been used. Moreover, a review of related literature was also used to collect the information related digital tools and techniques, strategies used by the teachers to adapt digital pedagogy. The data was analysed both quantitatively and qualitatively as per the objectives of the study. The descriptive statistics, including range, mean, and standard deviation values, were used to analyse the data.

Result and Discussion:

Table1: Demography of the Sample group (N=184)

Table 1 highlights the profile of Preservice teachers i.e. Stream, sex and location of the preservice teachers where they live.

Characteristics	Frequency	Percentage (%)
Stream		
Social Science	78	42.39
Science	106	57.61
Sex		
Male	100	54.35
Female	84	45.65
Location		
Urban	80	43.48
Rural	104	56.52

Table 1 shows that 54% of participants are male preservice teachers and 45.65% are female. 42.39 % respondents are belonging to Social Science stream and 57.61% respondents are belonging to Science stream. 56.52% respondents are leaving in rural area while 43.48% respondents are leaving in urban area. According to all India Education survey on Higher Education (2019-2020) report, 60.56 percent of 42,343 colleges are located in rural areas and 76.6 percent are privately managed and Internet penetration in India is only 45 percent as of January 2021. Therefore, these are other challenges for successful implementation of Blended learning.

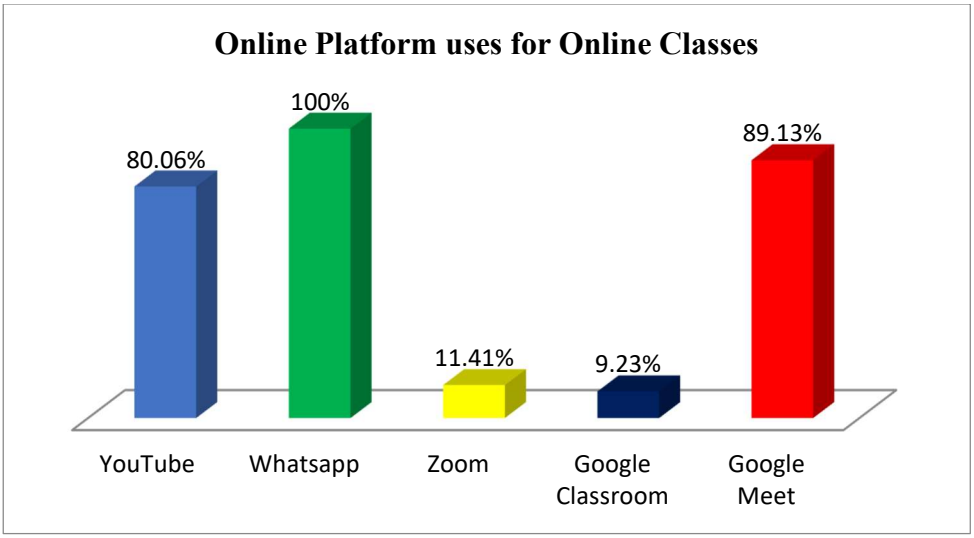

Figure 2: Uses of Online Platform for Online Teaching and Learning

Figure 2 show that the all participants are using the WhatsApp in their teaching learning processes for sharing their knowledge. Majority of the students (89.13%) are using the Google Meet app for online video conferencing meeting with their teachers/counselors. Majority (80.06%) of participants are using YouTube for development of their professional knowledge and skills. The Google Classroom (9.23%), and Zoom meeting app (11.44%) are used by preservice teachers (refer by figure 2). In COVID-19 when all educational institutions were shifted from offline to online, teachers are compelled to explore and learns various tools/ applications for adaptation of online learning environment to overcome the challenges of COVID-19. According to Ezekoka and K. Gertrude (2015) the following ICT tools have been used by teachers for collaborative support in blended approach of learning: social networking services, Email, Online Games, Blogs/micro blogs, wikis, Videoconferencing, audio conferencing, and World Wide Web. Social networking services can useful for discussion of various academic works among the learners' outside school hours.

Majority (86.04%) of participants agreed that online tools are very much easy to install, open, use, comfortable in joining of meeting and sharing of texts/projects/assignments whereas 11.95% of participants have some problems in accessibility of online tools/applications in their teaching-learning process. The teachers have also faced such problems due to electricity, internet/Wi-Fi Networks and due to less techno savvy nature. According to Farren &Tweedy (2002) standardization and adoption of these technologies depends on how they communicate, learn and work. This gives learners freedom, flexibility to learn at their own pace and easy to revisit the concept with a time being whenever they required (Anderson, 2004). These tools can be available anytime, and anywhere, which are helpful to learners to extend their knowledge to further investigate and explore on the basis of their own interest.

Table 2: Collaborative learning environment in online teaching and learning

In order to gauge the perception of Preservice teachers' regarding the collaborative learning environment in online learning, a five-point rating scale was used for closed-ended questions (5 =

Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, and 1 = Strongly Disagree) was used. This was further merged into three point rating scale.

N=184	Frequency	Percentage (%)
Agree	151	82.06
Neutral	18	9.78
Disagree	15	8.15

Table 2 shows that majority (82.06%) of pre-service teachers agreed on technological tools used in online learning platform have ample scope of creating collaborative learning environment. Through WhatsApp, Google classroom and other social networking sites a collaborative learning environment can be created for learners, where learners can complete their task in group with the collaboration of their peers. However, 8% of pre-service teachers are not agreed about the scope of collaboration of social networking sites. Group work and Collaborative learning are well proved in many cases and are the indicators of better academic performance (Bhatia, 2012). The use of Information and Communication Technology to support collaborative learning is yet to be a common phenomenon in today's classrooms (Becta, 2007). However, according to Chai & Tan, (2009) for competent teachers of computer-based community-based learning, a sustainable training and professional development programs are needed.

Table 3: Covid-19 provide a new paradigm of learning pedagogy by using innovative technology

In order to gauge the perception of Preservice teachers' regarding the Covid-19 provide a new paradigm of learning pedagogy by using innovative technology, both closed and open-ended questions were asked. A five-point rating scale was used for closed-ended questions (5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, and 1 = Strongly Disagree). The minimum and maximum response values, as well as the mean and standard deviation, are presented in Table 3.

S. N.	Items	Minimum	Maximum	Mean	SD
01	Use of various tools like Google classroom, Google meet, zoom meeting etc. are very easy in joining meeting, sharing the texts during classroom discussion	1.0	5.0	3.85	0.99
02	The teachers can assess progress effectively in online mode than the offline mode	1.0	5.0	3.44	1.28
03	Covid-19 provide a new paradigm for use of technology in the process of learning	1.0	5.0	4.20	0.93

For item 1, regarding to Use of various tools like Google classroom, Google meet, zoom meeting etc. are very easy in joining meeting, sharing the texts during classroom discussion, the mean value of responses (Mean=3.85, SD=0.99) indicated that respondent are agreed that these tools are very much easy and handy to use for sharing of knowledge in classroom discussion.

For item 2, pertaining to teachers can assess progress effectively in online mode than the offline mode, the mean value of responses (mean=3.44, SD=1.28) indicated that respondents are agreed that teachers can gives assignments, conduct online test easily and after the assessment they can also give spontaneous feedback to the learners for their learning improvements synchronously as well as asynchronously. However, a report published in *Times of India, 2022* newspaper, it is a dire need for the teaching faculty to assess the students' performance in real time and provide frequent feedback. "Offline assessment continues to retain its credibility" clearly shows that online assessment is questionable.

For item 3, pertaining to Covid-19 provide a new paradigm for use of technology in the process of learning, the mean value of responses (Mean=4.20, SD=0.93) indicated that respondents are agreed that the technological innovation in Covid-19 created an ample scope of new paradigm of learning pedagogy.

"I personally feel that online teaching and learning has given us an advantage to be connected with technologies and it enhances our learning interest although we are not attending offline classes but still teachers are giving their best."

The above statements clearly revealed the potentialities of technology.

Table4: Challenges of Online Learning

In order to gauge the perception of Preservice teachers' regarding the challenges of online teaching and learning, both closed and open-ended questions were asked. A five-point rating scale was used for closed-ended questions (5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, and 1 = Strongly Disagree). The minimum and maximum response values, as well as the mean and standard deviation, are presented in Table 4.

S. N.	Items	Minimum	Maximum	Mean	SD
01	Teacher always encourage students to participate in classroom discussion	1.0	5.0	2.06	1.35
02	The teachers always share the learning materials through online resources (WhatsApp, Google classroom, e-mail)	1.0	5.0	2.22	1.26
03	I joined the class and do other works by switching off the video	1.0	3.0	1.78	0.61
04	I am very much enthusiastic to attend the online classes	1.0	5.0	1.75	1.30

05	The face to face interaction with other students is not possible in the online mode of the teaching-learning process. I feel loneliness in this situation	1.0	5.0	2.77	1.24
06	The online classes are demotivating me.	1.0	5.0	3.37	1.22

For Item 1, regarding the teacher always encourage students to participate in classroom discussion, the mean responses (Mean=2.06, SD=1.35) indicated that respondents are disagreed about the scope of active participation in classroom discussion in online teaching. For item 2, pertaining to teachers always share the learning materials through online resources (WhatsApp, Google classroom, e-mail), the mean value of responses (Mean=2.22, SD=1.26) indicated that respondents are disagreed on teacher always share the learning materials through online resources. The finding implies that most of the teaching faculty is interested and comfort in traditional classroom teaching and learning. It has not only taken away their comfort level but has been presented many unknowns. *"No doubt the immense potentialities embedded in ICT was realised during pandemic but it stills has its own challenges such as students and teachers with varying degree of IT skill logistics and outdated gadgets etc."* (Gupta and Ali, 2023).

For item 3, pertaining to joined the class and do other works by switching off the Camera/video, the mean value of responses (Mean=1.78, SD 0.61) revealed that respondents are disagreed about doing others work while attending the online classes but many times teaching faculty noted in disciplinary behaviours of students during online classes, however, by the intervention of AI technologies, indiscipline can be checked and balanced. For Item 4, regarding enthusiasm to attend the online classes, the mean value of responses (Mean=1.75, SD=1.30). For item 5, pertaining to face to face interaction with other students is not possible in the online mode of the teaching and learning i.e. feel loneliness, the mean value of responses (Mean=2.77, SD=1.24) represented neutral viewpoints. The findings revealed that teacher-students interaction cannot be forged easily by online mode. It also needs some university/college space for peer interaction, debate and dispute. It is also highlighted in research that online learning leaves very little room for the all-round development of the students' intelligent quotients, emotional quotients, physical quotients, social quotient and spiritual quotients (Gupta and Ali, 2023). For item 6, regarding the online classes created demotivation, the mean value of responses (Mean=3.37, SD=1.22) indicated that respondents have neutral viewpoints regarding the online learning that created demotivation.

These are the some responses shared by preservice teachers

"Overall, I don't like online classes much because online classes are somehow boring, due to this I have always headache"

"This pandemic has led to rise an online teaching trend which will be very beneficial for the students but as my opinion, offline is yet the best way of teaching and learning as we can interact with teachers as well as peers in more interactive and details"

"Online learning is good but can't say it better because sometimes we get bored of it and it affects our minds very badly"
"It's a new experience I personally enjoying it but sometimes it is difficult to stay on screen all the time".
These responses of the preservice teachers clearly indicated that online teaching and learning have various challenges and limitations which should be improve by academia by the supports of governments and administrative agencies in terms of advanced IT skills training of teachers, updated gadgets and sufficient expenses.

Conclusion and suggestions:

This study revealed that the major challenges/issues of blended learning can be categorized into three: advanced infrastructure i.e. advanced and updated gadget, faculty IT skills. Second is positive attitudes' regarding technology and third one is students' netiquettes. The findings also revealed that pandemic COVID-19 has provided us many opportunities of learning of various technological tools/applications which are helpful in adoption of online teaching and learning, however, it also has some challenges and limitations to tailor the problems related to social, emotional, psychological and spiritual. Therefore the teacher education program required to orient and sensitize the teachers to distinguish between critically useful, developmentally appropriate and the detrimental role of technology. Therefore there is a lot to be needed to improve technological pedagogical domain of teaching faculty and infrastructure of educational institutions in terms of man, money and material. Moreover these limitations can be endured by the intervention of face-to-face teaching simultaneously. Many research data also bring to light that the paradigm has been changed and it is an urgent need to move into blended learning approach as a learning pedagogy in education (Saboowala and Mishra 2021). The findings also revealed that online teaching has ample scope of collaborative learning, easiness in sharing of information between teachers and students. Other hand the government initiatives like SWAYAM, MOOC, DIKSHA, NISHTHA and NOER etc. are optimistic efforts.

References:

- Allen, I. E., Seaman, J., Poulin, R., & Straut, T. T. (2016). Online report card: Tracking online education in the United States, 1–4. Retrieved, from http://onlinelearningsurvey.com/reports/ onlinereportcard.pdf.
- Anderson, T. (2004). Towards a theory of online learning in T. Anderson & F. Alloumi (eds). Theory and Practice of Online Learning. Canada, US.
- Becta (2007). Harnessing technology: Progress and impact of technology. Retrieve on 25 March 2022 by: https://www.researchgate.net/publication/277750879_Harnessing_technology_review_2007_Progress_and_impact_of_technology_in_education_Full_Report/citations
- Bergmann, J., & Sams, A. (2014). Flipped learning: Gateway to student engagement. International Society for Technology in Education.

- Bhatia, H. K. (2012). Reflection on Blended learning and Peer Collaboration in Teacher Education. Global Books organization Delhi.
- Chai, C. S., and Tan S. C. (2009). Professional Development of Teachers for Computer-Supported Collaborative Learning (CSCL) through Knowledge Building. Teacher College Records.
- Farren, M. & Tweedy, E. (2002) using videoconferencing to facilitate various perspectives on teaching and learning. Retrieve from https://www.semanticscholar.org/paper/Using-Videoconferencing-to-facilitate-various-on-Farren-Tweedy/fe46108b48ffcc186a7f5131f59c11ce60a6287b
- Fischer, L., Hilton, J., Robinson, T. J., & Wiley, D. (2015). A multi-institutional study of the impact of open textbook adoption on the learning outcomes of post-secondary students. Journal of Computing in Higher Education, 27, 159–172. https://doi.org/10.1007/s12528-015-9101-x
- Glaser, R. (1984). Education and thinking: The role of knowledge. American psychologist, 39(2), 93.
- Graham, C. R. (2006). Blended learning systems. The handbook of blended learning, 3-21.
- Gupta, M. and Ali, M., M. (2023). ICT Integration in Education: Issues, Challenges and Prospects. Pub. By Shipra publication New Delhi.
- Hilton, J., Fischer, L., Wiley, D., & Williams, L. (2016). Maintaining momentum toward graduation: OER and the course throughput rate. International Review of Research in Open and Distance Learning, 17(6). https://doi.org/10.19173/irrodl.v17i6.2686.
- Lewis, L., & Parsad, B. (2008). Distance education at degree-granting postsecondary institutions: 2006-07 (NCES 2009-044). Washington. Retrieved, from http://nces.ed.gov.
- Pokhrel, S., Chhetri, R. (2021). A Literature Review on Impact of COVID-19 Pandemic on Teaching and Learning. Sage Journal: Higher Education for the Future 8(1) 133–141.
- Robinson, T. J., Fischer, L., Wiley, D. A., & Hilton, J. (2014). The impact of open textbooks on secondary science learning outcomes. Educational Researcher, 43(7), 341–351. https://doi.org/10.3102/0013189X14550275.
- Saboowala, R. and Mishra P., M. (2021). Readiness of In-service Teachers toward a Blended Learning Approach as Learning Pedagogy in the Post-COVID-19 Era. Journal of Educational Technology Systems, Vol. 50(1) 9–23.
- Singh, Jitendra & Steele, Keely & Singh, Lovely. (2021). Combining the Best of Online and Face-to-Face Learning: Hybrid and Blended Learning Approach for COVID-19, Post Vaccine, & Post- Pandemic World. Journal of Educational Technology Systems. 50. 1-32.
- Slomanson ,W. R.(2014)Blended Learning: A Flipped Classroom Experiment Journal of Legal Education Vol. 64, No. 1 (), pp. 93-102
- Times of India (21 March 2022*).* Offline assessment continues to retain its credibility (p. 6). *Times of India,* New Delhi, India.