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Preferential Study Of Ict Used By Teacher Trainees During Covid-19

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ABSTRACT:
Preferential study of ICT was to study the preference of 40 teacher trainees under a bachelor level teacher education program during the pandemic situation of COVID-19 in context of demographic situation. Discontinuation of education in higher educational institutions world-wide showed the need of ICT as an alternative solution. From the accessible population of 100 B.Ed. trainees of Central University of Jharkhand, that covers 20 districts of three states in India, a sample of 40 teacher trainees were selected with simple random sampling technique. They were surveyed through online google form by an online observation schedule consisted of 14 items, and data were analysed with descriptive statistics for plotting the result using MS-Excel. Findings showed that 42.5% teacher trainees were found in the red zone as the highly affected area of COVID-19. Poor network situation was revealed by 60% trainees. The Internet Pack of only 1.5 GB per day was found mostly used by teacher trainees (62.5%). Most of trainees (62.5%) preferred video conferencing, and 90% were found able to submit assignments online. As the communication platforms, 45% of teacher trainees were found to prefer the use of Whatsapp together with Zoom Meeting and Google Classroom. Face-to-face offline interaction, online objective test and flipped learning were preferred by most of the teacher trainees. Thus, the study is useful in a way to determine the preconditions for teacher training, online training, online assessment techniques, mode of communication and interaction and distance learning in the pandemic situation.

KEY WORDS: ICT, Online learning, Flipped learning, Teacher training.

Introduction

BACKGROUND

Information and Communication Technology (ICT) plays a substitutive role for a teacher in a classroom, though it is not possible to resolve all the issues of students through online education. But, COVID-19 Pandemic made all alert and sensitive to the importance of of technology when several educational institutions, not only in India but in the entire world, got affected and discontinued offline mode of education, and several online platforms were created to engage students, trainees, educators and others. In the present study, it was hard to manage the classes for trainees under teacher training for school education that how they will practice their teaching

so that they would be efficient in teaching for the primary and secondary school level of students, and in this connection, educational technology and ICT were broadly useful, though there were several challenges in the beginning of online education for professional programmes, like Bachelor of Education, (B.Ed.) and Diploma in Elementary Education (D.El.Ed.) and other similar master level teacher education programmes.

Some of reviews revealed the necessity of ICT for continuing education during the pandemic situation. Impact of growth of ICT usage in Egypt were observed as their socio-economic development (Kamel, Rateb, & El-Tawil, 2009). Study of the experiences and perceptions of adult learning English through ICT in England revealed the ICT to reduce the exclusion and to establish inclusive environment (Webb, 2006). Learning style in the later stage of 2nd decade of 21st century due to Corona and COVID-19 worldwide pandemic situation has been substantially changed from traditional face-to-face learning to ICT enabled collaborative face-to-face teaching, training and learning. Digital teaching material like e-books and presentations were found useful for ICT-supported learning (O. Redkin & O. Bernikova, 2014). Media in Education and ICT in Education reflect a change of normative orientation in bahaviour related to the issues like cyber risk and digital divide (Magenheim, 2003). Dynamic Knowledge Based Economy is an impact of ICT usage in the field of industry and society in Europe (Franklin, Stam, & Clayton, 2009). Under quasi-experimental design, results showed that secondary school students of Mathematics taught by ICT driven pedagogy acquire better learning experience (Chandra & Briskey, 2012). Learning difficulties in the acquisition of literacy and numeracy skills among heterogeneous group of students at special schools revealed that use of ICT facilitates for acquisition of useful life skills (Adam & Tatnall, 2010). ICT is considered important for achieving the educational and economic development goals, and Community Technology Centre to combat the digital divide (Wolske, Williams, Johnson, Noble, & Duple, 2010). As a social impact of ICT, changes have occurred in the mind set of developed countries like US, Japan and Korea, in policy making, lifelong learning platform of education and work, taking ICT as an integral part of development (Version & Framework, 2010). For Information dissemination in rural and urban educational environment, ICT application is impactful in sharing of knowledge and resources (Baid, Nangia, Gupta, & Gupta, 2008). Under research and development, technology developers and policy makers have widely addressed the impact of ICT in growing socio-economic life (Gatautis, 2008). Implementation and embedding of ICT in hi-tech organization need be made at individual level (Barnes, 2012). Usable ICT based services for tenants have been supported by European Commission for Resource Management and Resource Use Awareness to reduce consumption in social housing (Guerrisi, Martino, & Tartaglia, 2012). People at the Bottom of Pyramid (BOP) under geographic dispersion were observed having less economy, physical distancing, and the lack of financial ability, but these separation and disconnect were minimized by ICT enabled innovations (Tarafdar, Singh, & Anekal, 2013). The level and quality of access to ICT infrastructures play a vital role (Campisi, De Nicola, Kooshki, & Mancuso, 2013). Better outcomes from rural tourism are observed by use of ICT (Pena, Jamilena, & Molina, 2013). Poverty reduction by application of ICT, and possibility for collaboration with internet was significantly increased (Tas, 2011). Personal ICT have become commonplace, and different computing and communication devices in everyday life (Scheepers & Middleton, 2013). Consequences of ICT were observed as the decentralization of workplace by teleworking to

overcome geographical distance, and to increase the time compression (Abdul Wahab, 2006). ICT skills in curricula vitae (CVs) were found to increase the probability of callbacks for selection and employment (Boo & Blanco, 2011). Outcomes of ICT adoption in organizations such as small and medium enterprises (SMEs) were observed as a positive impact as efficiency, and effectiveness (Tarutė & Gatautis, 2014). ICT plays a significant role in developing human capital and rural school development at primary and secondary level (Saha, Dey, & Khan, 2014). Secondary school students were found to achieve good learning in constructive and collaborative way by ICT (Corporan & Hernandez, 2014).

Thus, as it is clear from review literature that there is prime importance and need of ICT in teaching-learning, training, social development and economic growth which are highly required at the time COVID-19 Pandemic to cope up with problems and continue education in online mode, and communication. In the period of pandemic situation, entire glob seeks solution for education and social growth and development. Researches showed a research gap and a lack of preferential study during COVID-19. This is why it is essential to identify the problems of students under training and education that how they can learn, what are their preference, what would be better.

OBJECTIVES

The problems of the study were destined to realize the following objectives under investigation:

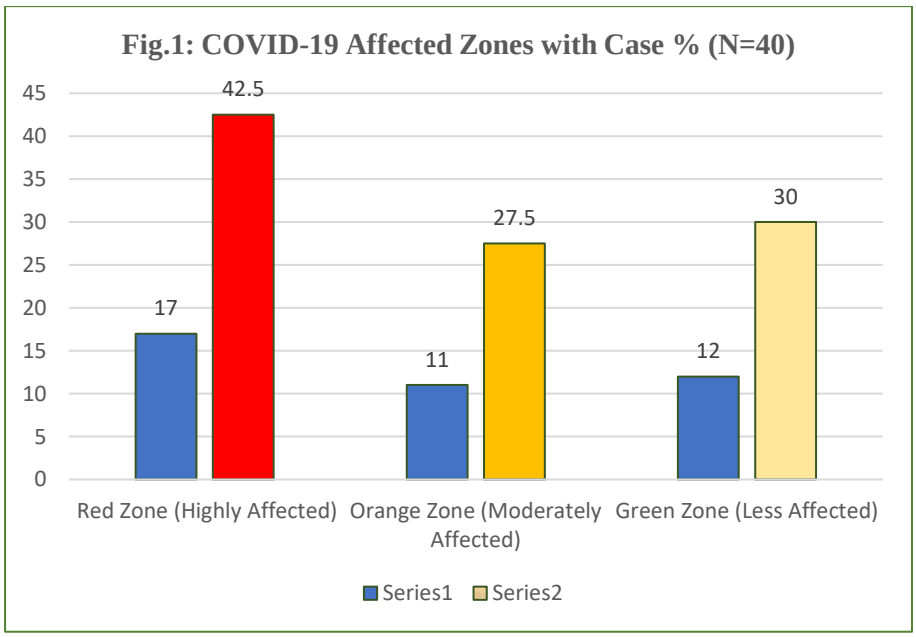
1. To investigate demographic information of areas affected by COVID-19 of teacher trainees.
2. To study the network situation (internet connectivity) for teacher trainees under training during COVID-19.
3. To identify the internet pack used by the teacher trainees during COVID-19.
4. To study whether teacher trainees joined a video conferencing class ever before COVID-19.
5. To study the online submission of assignment of teacher trainees in COVID-19.
6. To study the proper functioning of Mobile during online teacher training during pandemic situation.
7. To study preference of ICT devices for online class for teacher training during COVID-19.
8. To study the preference of communication platforms for online classes during COVID-19.
9. To study the preference of modes of communication during COVID-19
10. To study the preference of mode of class for teacher trainees during COVID-19
11. To study the preference of study place of teacher trainees during COVID-19
12. To study the preference for mode of test for teacher trainees during COVID-19
13. To study the preference of External Exam of teacher trainees during COVID-19
14. To study the preference of explanation of online material after access, as a Flipped Learning during COVID-19

METHODOLOGY

The study was descriptive research using survey method. Cross sectional data were collected from the primary source. From the accessible population of 100 B.Ed. trainees of Central University of Jharkhand, that covers 20 districts of three states in India, a sample of 40 teacher trainees were selected with simple random sampling technique. They were surveyed through online google form by an online observation schedule consisted of 14 items, and data were analysed with descriptive statistics for plotting the result using MS-Excel.

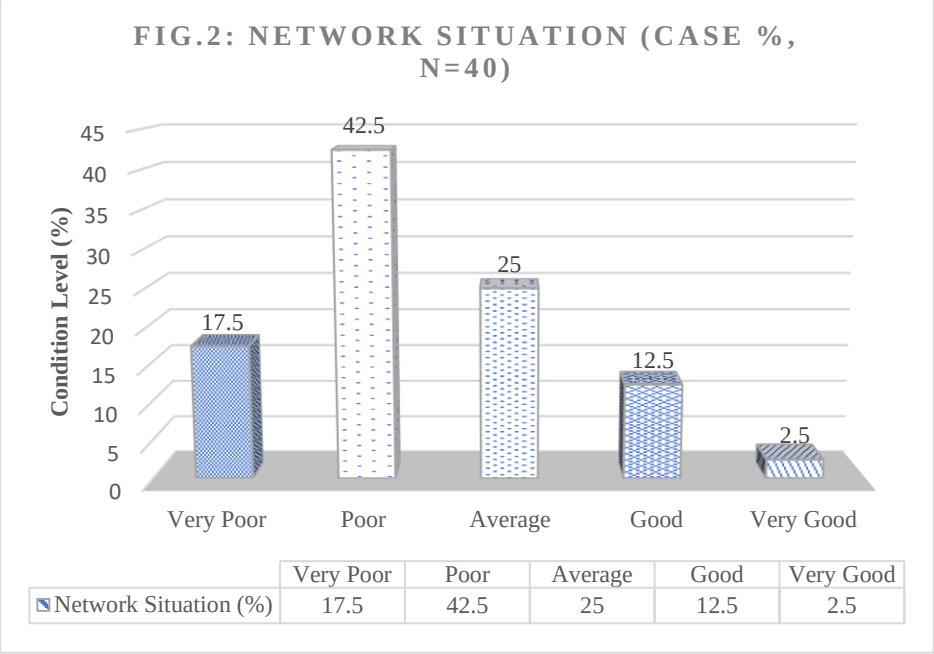
RESULTS

1. **Demographic information of areas affected by COVID-19 as the Green zone, Orange zone, and Red zone.**
   By the data analysis, result obtained was plotted as given in Fig.1.



Result showed that most of the teacher trainees (42.5%) were found in the red zone which was marked as the highly affected area by COVID-19, together with 27.5% of teacher trainees in the orange zone which was partially restricted and teacher trainees could not move here and there in group, and only 30% of teacher trainees were treated as safe as per the guidelines given by government of India during COVID-19 pandemic.

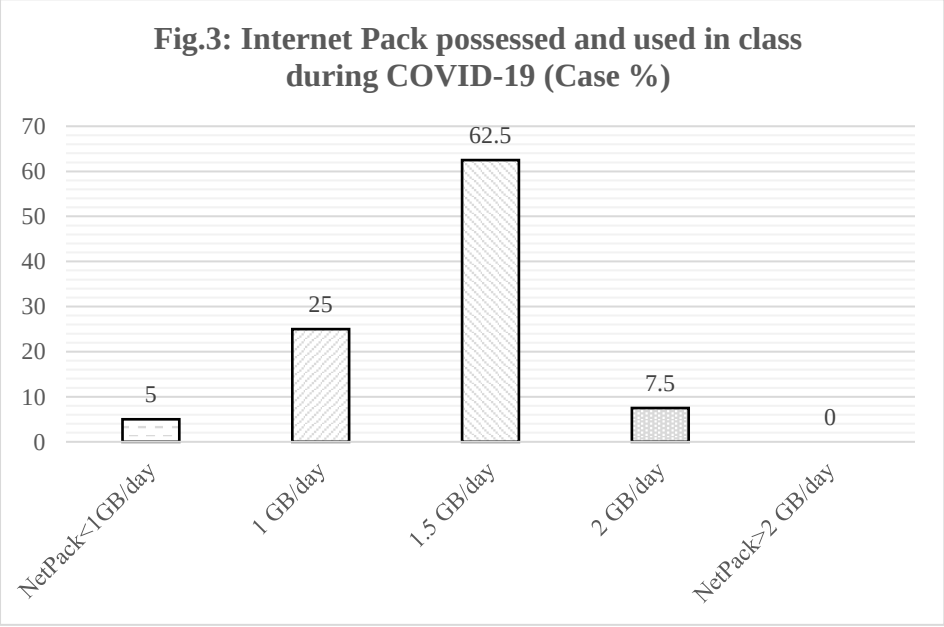
2. **Network (internet connectivity) available for teacher trainees under training during COVID-19:**
   As a result of data analysis in context of network situation, results obtained were plotted, as given in Fig.2.



Result showed most of the teacher trainees (60%) facing poor network situation, and only 15% of student were getting benefit of good condition of internet network during COVID-19.

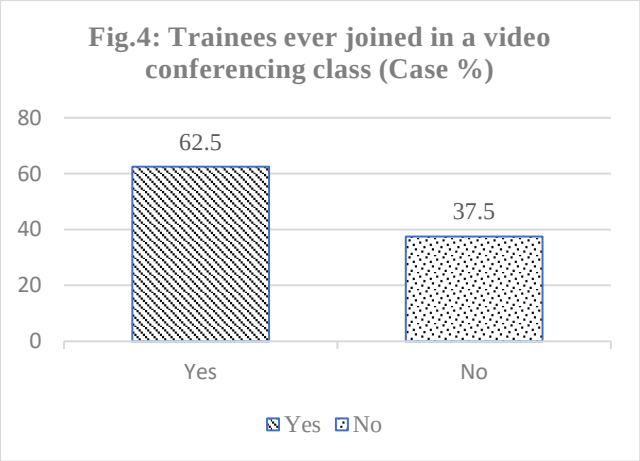
3. **Preference of Internet Pack possessed and used in class during COVID-19:** Data

As a result of data analysis in context of Internet Pack, results obtained were plotted, as given in Fig.3.



Result showed that the most preferred Internet Pack used was found to be of 1.5 GB per day as accepted by 62.5% of teacher trainees during COVID-19 for online classes. None of them were found to have internet pack more than 2 GB per day.

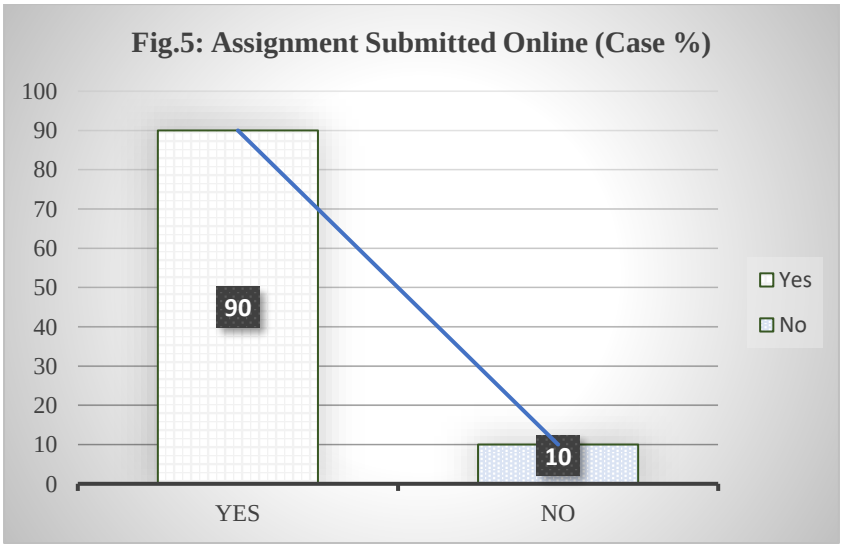
4. **Trainees joined in a video conferencing class ever before COVID-19:**
As a result of data analysis in context of video conferencing attending by teacher trainees, results obtained were plotted, as given in Fig.4.



Result showed that 62.5% of teacher trainees were found to have used video conferencing before pandemic situation.

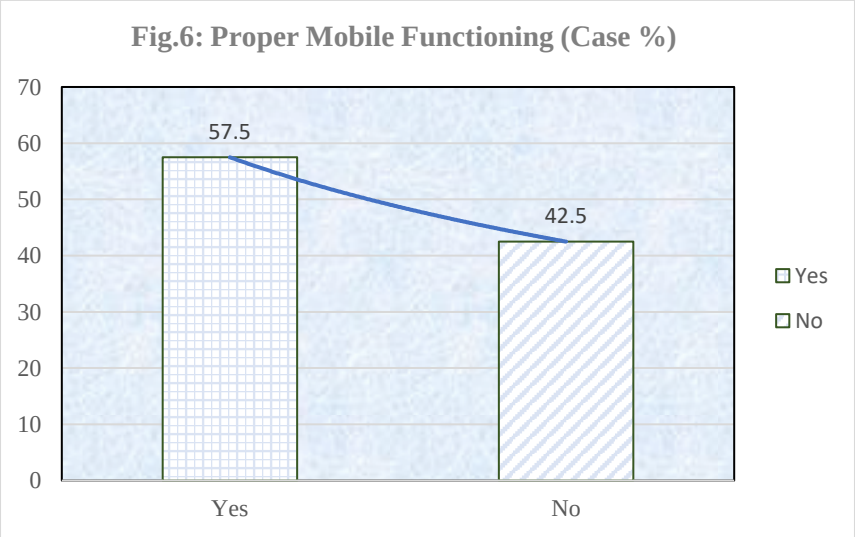
5. **Status of online submission of assignment of teacher trainees during COVID-19:**

As a result of data analysis in context of online submission of assignment, results obtained were plotted, as given in Fig.5.



Result showed that 90% of the teacher trainees were found to have been able to submit their assignment online.

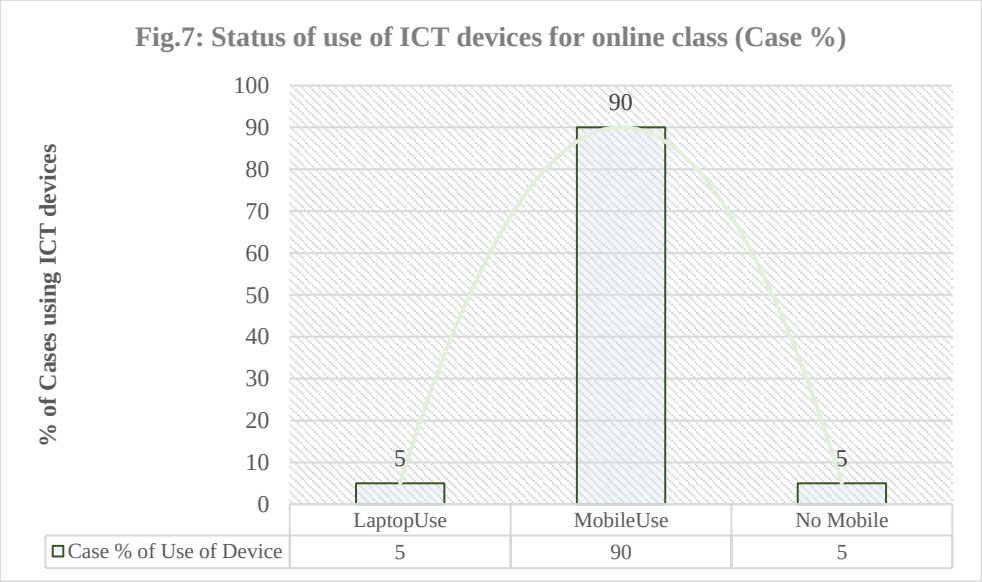
6. **Status of proper functioning of Mobile during online class in pandemic situation:**
As a result of data analysis in context of mobile functioning, results obtained were plotted, as given in Fig.6.



Result showed that only 57% teacher training were found to have their mobile functioning in proper manner during the COVID-19.

7. **Status of preference of ICT devices for online class during COVID-19:**

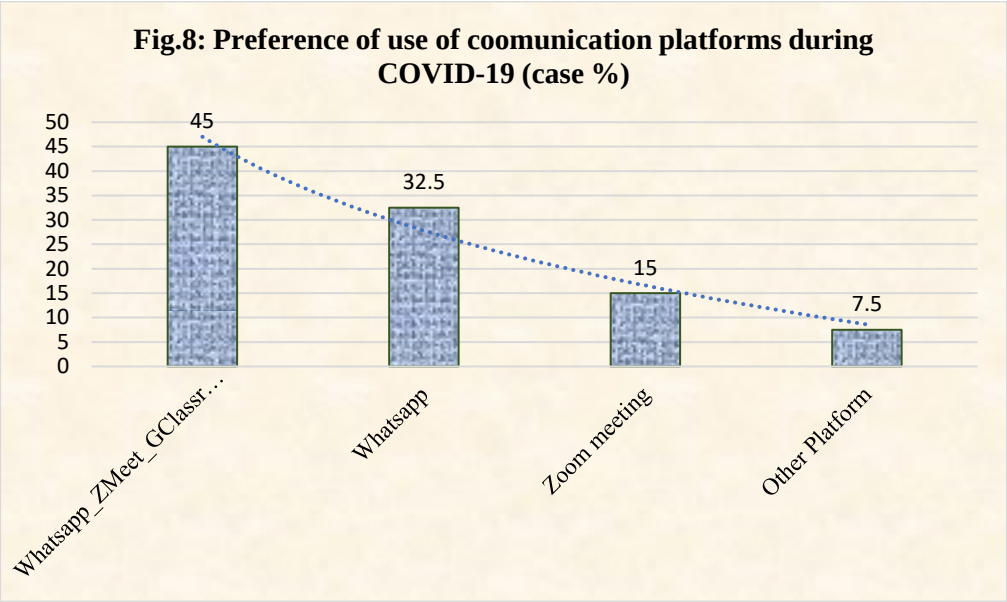
As a result of data analysis in context of network situation, results obtained were plotted, as given in Fig.7.



Result showed that 90% of the teacher trainees prefer use mobile for online classes for teacher training during the COVID-19 pandemic situation rather than using laptop.

8. Status of preference of communication platforms for online classes during COVID-19:

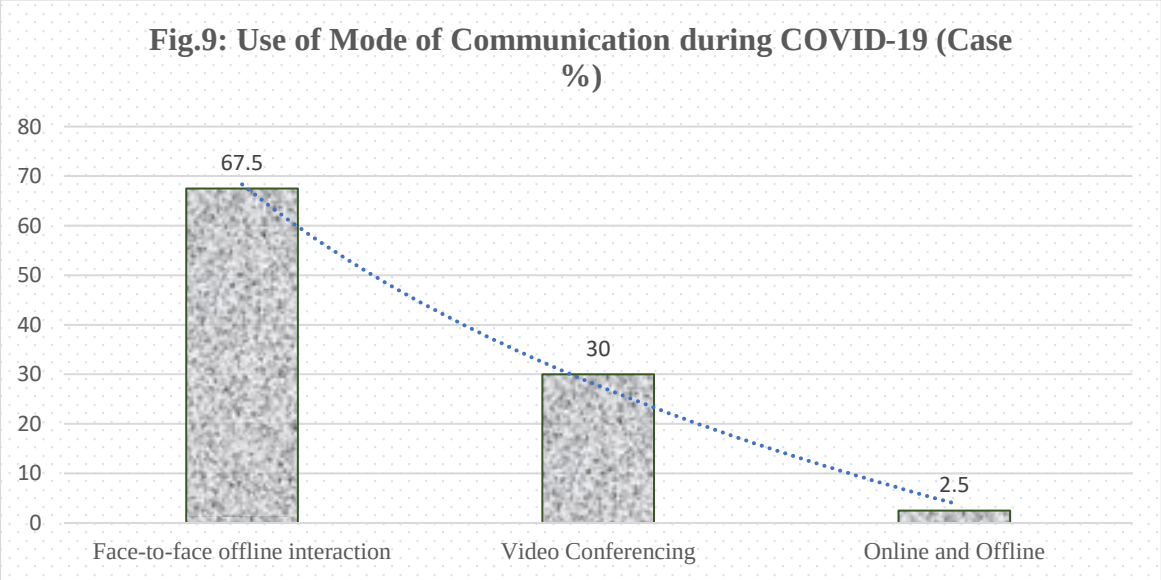
As a result of data analysis in context of communication platform, results obtained were plotted, as given in Fig.8.



Result showed that 45% of teacher trainees were found to prefer the use of whatsapp together with Zoom Meeting and Google Classroom as the communication platforms during COVID-19.

9. Preference of use of different modes of communication by teacher trainees during COVID-19:

As a result of data analysis in context of mode of communication, results obtained were plotted, as given in Fig.9.

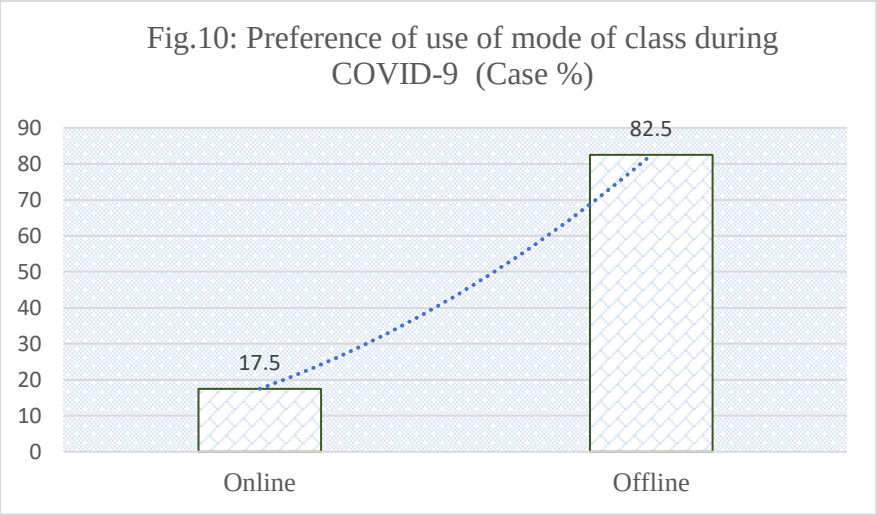


Result showed that Face-to-face offline interaction is the most preferred mode of communication as agreed by most of the teacher trainees (67.5%) even during the pandemic situation. They feel

requirement of offline interaction. Only 2-3% of them prefer blended mode of communication involving both offline and online interaction during the COVID-19.

10. Preference of use of mode of class for teacher trainees during COVID-19:

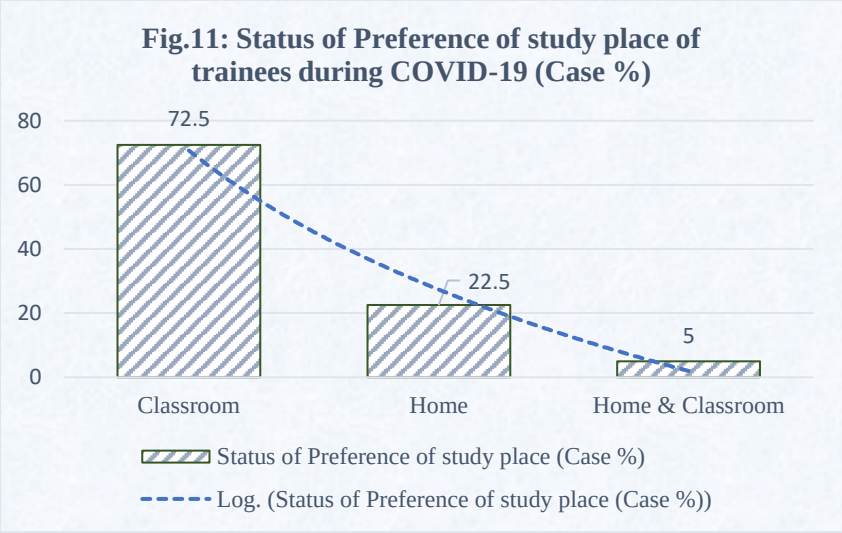
As a result of data analysis in context of mode of class, results obtained were plotted, as given in Fig.10.



Result showed that 83% of teacher trainees prefer offline mode of classes during the COVID-19 for teacher training.

11. Preference of study place of trainees during COVID-19:

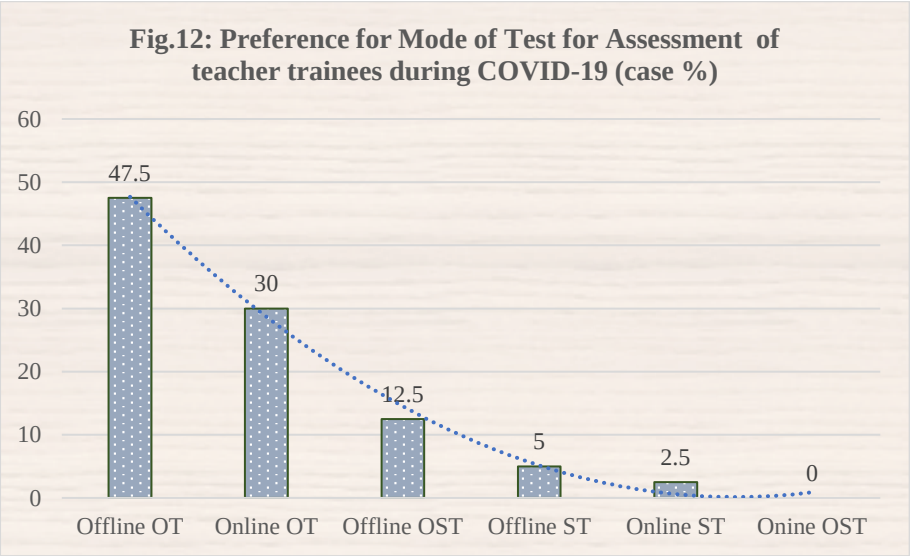
As a result of data analysis in context of study place, results obtained were plotted, as given in Fig.11.



Result showed that classroom was found to be most preferred place of study for teacher trainees rather than home during the pandemic situation of COVID-19 as agreed by 73% of teacher trainees.

12. Preference for mode of test for assessment of teacher trainees during COVID-19:

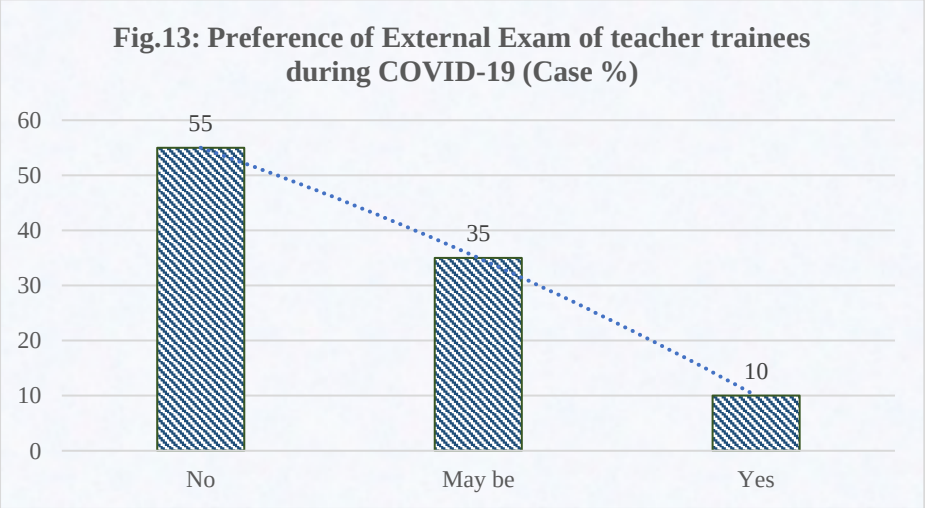
As a result of data analysis in context of mode of test for assessment, results obtained were plotted, as given in Fig.12.



Result showed that offline objective test (OT) was preferred by 47% of teacher trainees over online objective test. No teacher trainees preferred online subjective test (OST). Offline subject test (ST) and online ST were not preferred during the COVID-19 pandemic situation for assessment in the teacher training.

13. Preference of External Exam of teacher trainees during COVID-19:

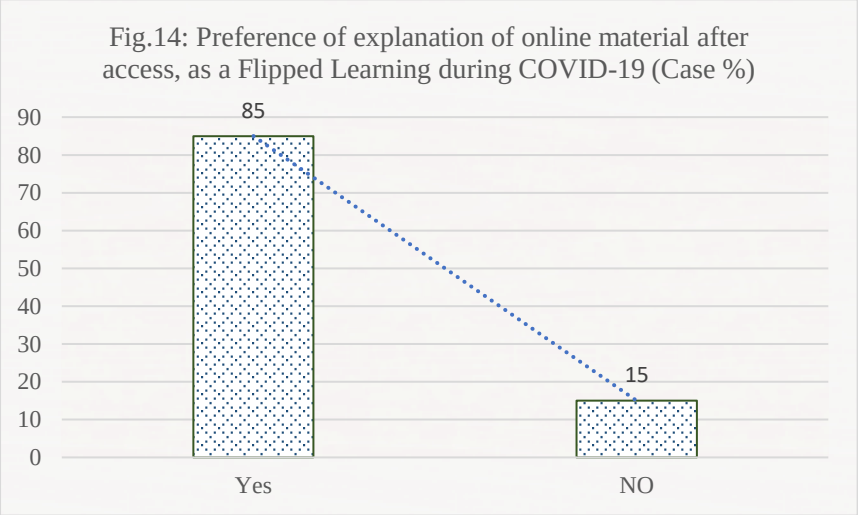
As a result of data analysis in context of, results obtained were plotted, as given in Fig.13.



Result showed that most of the teacher trainees discarded the online mode of external examination for final assessment during the COVID-19.

14. Preference of explanation of online material after access, as a Flipped Learning during COVID-19:

Preference of explanation of online material after access, as a Flipped Learning during COVID-19 are plotted in the fig.14.



Result showed that most of the teacher trainees (85%) prefer explanation of the online material availed to access. In other words, flipped learning is preferred by teacher trainees for teacher training during COVID-19.

CONCLUSION:

The descriptive study was based on short survey among the teacher trainees under teacher education programmes for two years and all the final year students were considered. After data analysis with MS-excel using descriptive statistics and result were plotted in graphical forms. Based the on the study, it can be concluded that results with respect to the objectives of the study revealed that during the pandemic situation of COVID-19, the teacher trainees of diversified background and under highly affect area as red zone and orange zone were found to show preference to offline face-to-face interaction. They were found highly familiar in the use of Mobile rather than laptop. Most of the teacher trainees preferred whatsapp, zoom meerting and google classroom for communication. Generally, classroom is preferred over home learning. In context of test for assessment, teacher trainees prefer mostly offline objective test rather than subjective test. Though online material are made available to the teacher trainees, but they prefer some explanation and so there should flipped classes for their effective teacher training. In context of online assessment as for external examination at the end of session, teacher trainees discarded to adopt online external examination.

Thus, ICT is preferred during the COVID-19 since all the teacher trainees had mobile device though there were some issues of network and internet pack requirement. Long period of online classes and assessment processes though online mode are less preferred. Thus, during the pandemic situation, there were several challenges and several alternatives to continuation of education in higher educational institution.

SUGGESTIONS:

Based on the study and findings related to the preference of teacher trainees in teacher training programme during COVID-19, it can be suggested that:

1. There should be good network connectivity for all teacher trainees, either rural area or urban area.
2. Teacher trainees should be trained to use laptop and computer besides mobile use.
3. There should have been provision of flipped classroom and hence flipped learning for explanation of online material availed to teacher trainees.
4. Higher level of internet pack is required that should be more than 2GB per day for online teacher training.
5. There should be training for hands-on skill for handling electronic gadgets and online application software for online collaboration.

DECLARATION:

Competing Interests Section: The competing interests of author are concerned ICT in Education. There is no conflict of interest.

Author contribution Section: Author has added new knowledge by way of the following points under the study:

- Identification of preference of ICT
- Identification of ICT preference based on new data

Implications of the study for practice and/or policy:-

- Applicable for Pupil teachers, teacher training programmes, and teacher education institutions.
- Applicable for assessment and evaluation of teaching skills and teaching effectiveness in a pandemic situation.

Originality of work: The study is an original work of the Author which has not been submitted for publication or degree. It has similarity level around 5%.

Author's Brief Profile: Author has publications of 11 research papers in peer reviewed journals and 15 chapters in edited books, presented papers in 30 national seminars and 15 international seminars, and 20 Faculty Development Programmes, and 20 Workshops, and teaching experience of 5 years in the field of Educational Technology, ICT in Education under the teacher education programmes of B.Ed., M.Ed. MA, Ph.D. in Education, and 8 dissertations were awarded at master level and 1 Ph.D. Scholars are under supervision.

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