Article

Open educational practices and virtual learning readiness among B.Ed. trainees

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Abstract: In recent time, Bachelor of Education (B.Ed.) trainees have increasingly adopted technology-oriented learning to enhance their classroom teaching and learning experiences. These trainees are also creating various learning environment, such as self-directed learning, group learning, and other activities with the digital tools. This study examined the integration of Open Educational Practices (OEP) and Virtual Learning Readiness (VLR) among B.Ed. trainees across different districts in Uttar Pradesh, India. With the growing dependence on technology, these trainees are utilizing digital resources like mobile learning applications, Zoom, Google Meet, Google Classroom freckle and digital whiteboards to improve their classroom engagement. The research, which included 960 B.Ed. trainees, employed standardized tools to evaluate their levels of Open Educational Practices (OEP) and Virtual Learning Readiness (VLR). The findings indicated that the trainees exhibited a moderate level of both variables, with notable variations based on certain background factors. A statistical analysis has done, which included percentage, descriptive, differential, and relational methods to analyze the collected data critically. However, the main challenges include limited time to locate suitable resources, insufficient awareness regarding quality assurance, technological constraints. The study suggests that targeted booster programs should be organized to enrich trainees' technological skills, enabling them to excel in future classroom teaching and learning. The study's outcomes are expected to significantly contribute to the improvement of the emerging learning society.

Keywords: open educational practices; virtual learning readiness; digital technological tools; technology; digital learning and education

1. Introduction

Open Educational Practices (OEP) and Virtual Learning Readiness are crucial topics in the realm of education, particularly for B.Ed. trainees. B.Ed. programs focus on preparing educators who are not only knowledgeable in their subjects but also adept at utilizing modern educational technologies and methodologies.

Open Educational Practices refer to the use of open educational resources (OER) and collaborative networks to improve access to quality education [1]. It emphasizes the sharing of knowledge, resources, and teaching practices openly and freely. According to Adil et al. [2] Open Educational Resources (OERs) are digital materials used online for academic purposes by educators, students, and researchers in the information economy. This study systematically reviewed the literature to explore the benefits and challenges of OERs in academia by following PRISMA guidelines, the review drew from four major scholarly databases, ultimately including 21 studies that met the criteria. The findings indicated that OERs offer key advantages, such as increasing access to knowledge, supporting lifelong learning, providing pedagogical benefits, and improving student-learning outcomes [3]. The

study examined the effects of faculty members' engagement with Open Educational Resources (OER). It also found that the utilization of these resources increased significantly beneficial when factors such as peer influence, supportive conditions, and self-efficacy regarding OER used effectively. Virtual Learning Readiness, on the other hand, assesses how well individuals are prepared to engage in online or virtual learning environments [4]. This readiness encompasses technological skills, digital literacy, self-discipline, and the ability to collaborate effectively in virtual settings. For B.Ed. trainees, understanding and integrating Open Educational Practices and being prepared for Virtual Learning are essential components of their professional development. Accordance with Sushil [5] investigated the impact of techno stress, locus of control, and teacher effectiveness on e-learning readiness among 400 government primary school teachers from 202 schools in Uttarakhand by using ANOVA, the research found that Science/Mathematics teachers had higher e-learning readiness than teachers of Social Science/Commerce subjects. The study revealed significant negative correlations between e-learning readiness and both techno stress and locus of control, and a significant positive relationship between e-learning readiness and teacher effectiveness. These concepts not only enhance their teaching abilities but also empower them to adapt to the evolving landscape of education, where digital tools and online resources play a significant role in student learning and engagement. Therefore, Open Educational Practice (OEP) and Virtual Learning Readiness (VLR) are interconnected concepts that enhance the effectiveness of online education [6]. OEP promotes the use of freely accessible educational resources and collaborative teaching methods, enabling broader participation and knowledge sharing. VLR refers to the preparedness of learners and institutions to engage in virtual learning environments, encompassing technological, psychological, and skill-based readiness.

2. Need and significance of the study

To ensure that B.Ed. trainees are well equipped for the technological demands of the modern world, the curriculum, teaching methods, and learning materials should be strongly integrated with technology-mediated classroom practices. Open Educational Practices (OEP) and Virtual Learning Readiness (VLR) are critical in facilitating effective content mastery among B.Ed. trainees. By developing strong technological skills, these trainees are better positioned to secure job opportunities and achieve professional growth in the evolving educational landscape [7]. Open educational practices, virtual learning readiness knowledge of the B.Ed. Trainees maximize the learning on the part of B.Ed. classroom as well to get wider knowledge through digital technology. B.Ed. Trainees need to update themselves towards Open Educational Practices and Virtual Learning Readiness because [8] Technological Learning Environments, encompassing Technological, Psychological, and Skill-Based Readiness, are crucial for nurturing Technological Skills among B.Ed. Trainees for the betterment of future generations. Right now, Sophisticated Forms of Teaching are needed to develop the B.Ed. Trainees' Competencies, such as the use of E-Resources, Technology Skills, and Technology-Using Skills, thereby raising the

Educational Quality, making Teaching and Learning an engaging, active process connected with real life through Technology.

3. Operational definition of the key terms

3.1. Open educational practices

Open Educational Practices (OEP) involve the application of knowledge by B.Ed. trainees on the use, exercise, and integration of various technologies in teaching and learning. Trainees are encouraged to maintain consistency in their practices, particularly concerning Open Educational Resources (OER).

3.2. Virtual learning readiness

Virtual Learning Readiness reflects B.Ed. trainees' preparedness to acquire knowledge through computers or smartphones. This readiness equips them to effectively receive content, connect with others, and communicates, enhancing their learning with technological tools.

3.3. B.Ed. trainees

"B.Ed. Trainees" refers to individuals who are pursuing a Bachelor of Education (B.Ed.) degree in Colleges of Education after completing their graduation.

4. Objectives of the study

The following are the objectives of the study:
1) To assess the level of Open Educational Practices and Virtual Learning Readiness of B.Ed. Trainees of Colleges of Education.
2) To find out whether there exists any significant difference in Open Educational Practices and Virtual learning Readiness of B.Ed. Trainees with respect to Gender, Educational Qualification, Year of Study and Computer Knowledge.
3) To find out whether there exists any significant relationship between Open Educational Practices and Virtual Learning Readiness among B.Ed. Trainees.

5. Hypotheses of the study

1) The level of Open Educational Practices and Virtual Learning Readiness, its dimensions of B.Ed. Trainees are not high.
2) There exists no significant difference in the Open Educational Practices and Virtual Learning Readiness, its dimensions mean score with respect to Gender, UG and PG Qualified, Ist year and IInd year and With Computer and Without Computer Knowledge B.Ed. Trainees.
3) There exists no significant relationship between Open Educational Practices and Virtual Learning Readiness among B.Ed. Trainees.

6. Methodology

This study employed a descriptive method using a normative survey technique and was conducted in five distinct stages:

1) Development and Validation: The first stage involved creating and validating a scale to assess Open Educational Practices (OEP) and Virtual Learning Readiness (VLR). This step ensured that the measurement tools were reliable and accurately reflected the constructs being studied.

2) Pilot Study: In the second stage, a pilot study was carried out with 92 B.Ed. trainees. This preliminary study helped refine the scales and procedures, ensuring their effectiveness before broader implementation.

3) Administration of Tools: During the third stage, the finalized scales on Open Educational Practices and Virtual Learning Readiness were administered to B.Ed. trainees from selected Colleges of Education in the districts of Ghaziabad, Delhi, and Noida. This phase involved the systematic collection of data from a larger sample of participants.

4) Data Analysis: In the fourth stage, the collected data were analyzed to identify patterns, correlations, and insights related to the trainees. This analysis provided a detailed understanding of the study's key variables.

5) Documentation of Results: The final stage focused on documenting and reporting the results of the study. This included summarizing findings, interpreting their implications, and presenting the conclusions in a comprehensive manner.

7. Sampling design

The population of the present study consists of B.Ed. Trainees of selected Colleges of Education. The tools were administered to 960 B.Ed. Trainees from various Colleges of Education in Districts by using Stratified Random Sampling Technique. These B.Ed. Trainees were from the Government and Self-Financing Colleges of Education, who were randomly selected. Among them, 960 B.Ed. Trainees responded completely. Hence the sample for the present study was 960. Then the sample was further divided into various categories.

Tools

The following tools were used in the present study:

- Open Educational Practices Scale developed by Dr. Deepika Chauhan (2024).
- Virtual Learning Readiness Scale developed by Dr. Deepika Chauhan (2024).

8. Results

It can be seen that the above **Table 1** as a whole 16.04% of B.Ed. Trainees have a low level of Open Educational Practices, 71.71% of B.Ed. Trainees have an average level of Open Educational Practices, 12.25% of B.Ed. Trainees have a high level of Open Educational Practices. Further it is revealed that Open Educational Practices (as a whole) of the B.Ed. Trainees are at average level.

Table 1. The level of open educational practices and its dimensions of B.Ed. trainees.

S. No	Dimensions of open Educational practices	Low		Average		High	
		N	*%*	*N*	*%*	*N*	*%*
1	E-resources	46	4.80	763	79.48	151	15.72
2	Technology skills	170	17.70	677	70.53	113	11.77
3	Technology using skills	246	25.62	625	65.11	89	9.27
	Open educational practices in total	154	16.04	688	71.71	118	12.25

It can be seen that the above **Table 2** as a whole 3.62% of B.Ed. Trainees have a low level of Virtual Learning Readiness, 90.91% of B.Ed. Trainees have an average level of Virtual Learning Readiness, 5.47% of B.Ed. Trainees have a high level of Virtual Learning Readiness. Further it is revealed that the Virtual Learning Readiness (as a whole) of the B.Ed. Trainees are at average level.

Table 2. The level of virtual learning readiness and its dimensions of B.Ed. trainees.

S. No	Dimensions of virtual learning readiness	Low		Average		High	
		N	*%*	*N*	*%*	*N*	*%*
1	Readiness in self-directed learning	29	3.02	861	89.69	70	7.29
2	Readiness in motivation for learning	30	3.12	916	95.42	14	1.46
3	Readiness in computer/internet self-efficacy	40	4.16	877	91.36	43	4.48
4	Readiness in learner control	34	3.54	851	88.65	75	7.81
5	Readiness in online communication self-efficacy	59	6.14	821	85.52	80	8.34
6	Readiness in exposing the human resource	17	1.77	910	94.79	33	3.44
	Virtual learning readiness in total	34.83	3.62	872.67	90.91	52.5	5.47

As seen in **Table 3**, it is evident that the obtained '*t*' values are not significant with respect to Open Educational Practices and its dimensions—E-Resources (1.47), Technology Skills (0.69) and Technology Using Skills (1.43) of B.Ed. Trainees are not statistically significant corresponding at 0.05 levels, with respect to 'Gender'.

Table 3. Significance of difference in open educational practices and its dimensions of B.Ed. trainees with respect to gender of B.Ed. trainees.

Sl.No	Dimensions of open educational practices	Male (*N* = 186)		Female (*N* = 774)		'*t*' value	Significant level
		Mean	SD	Mean	SD		
1	E-resources	39.85	4.78	40.44	7.93	1.47	NS
2	Technology skills	59.33	7.82	60.24	7.53	0.69	NS
3	Technology using skills	58.00	8.18	56.81	8.35	1.43	NS
	Open educational practices in total	157.18	20.78	157.49	23.81	1.20	NS

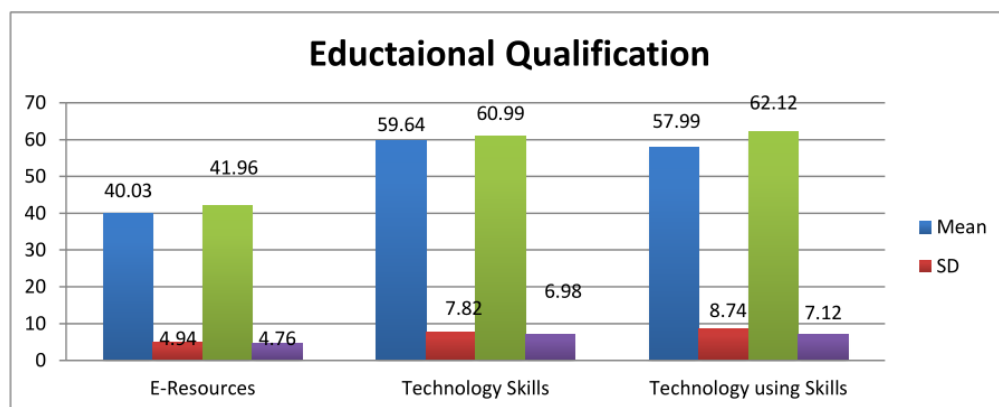NS—Denotes not significant at 0.05 level.

Figure 1. The graph showing the significance of difference in open educational practices and its dimensions of B.Ed. trainees with respect to educational qualification of B.Ed. trainees.

As shown in **Figure 1,** highlights the relationship between educational qualifications and three variables: E-Resources, Technology Skills, and Technology Using Skills, measured by mean and standard deviation (SD). While Technology Skills (mean: 59.64) and Technology Using Skills (mean: 57.99) show higher proficiency compared to E-Resources (mean: 40.03), the variability is highest in Technology Using Skills (SD: 8.74). This suggests that while proficiency in advanced technological skills is greater, there is significant variability among respondents, with E-Resources showing the least variation.

Table 4. Significance of difference in open educational practices and its dimensions of B.Ed. trainees with respect to year of study.

Sl. No	Dimensions of open educational practices	I year(488)		II year(472)		't' value	Significant level
		Mean	SD	Mean	SD		
1	E-resources	40.32	4.97	41.34	4.84	0.65	NS
2	Technology skills	59.11	7.67	60.03	7.52	0.87	NS
3	Technology using skills	58.25	9.02	59.07	7.51	1.52	NS
	Open educational practices in total	157.68	21.66	160.44	19.87	1.01	NS

NS—Denotes significant at 0.05 level.

Table 4 clearly shows that the 't' values obtained for Open Educational Practices and its dimensions—Technology Using Skills (2.73) of B.Ed. Trainees are statistically significant corresponding at 0.01 level. Obtained 't' values are not significant with respect to Open Educational Practices and its dimensions—E-Resources (0.65), Technology Skills (0.87), Technology Using Skills (1.52) and the Open Educational Practices in total (1.01) of B.Ed. Trainees are not statistically significant corresponding at 0.05 level. Hence, the null hypothesis is that 'There exists no significant difference in the Open Educational Practices and its dimensions mean score between I-year and II-year B.Ed. Trainees in their Open Educational Practices.
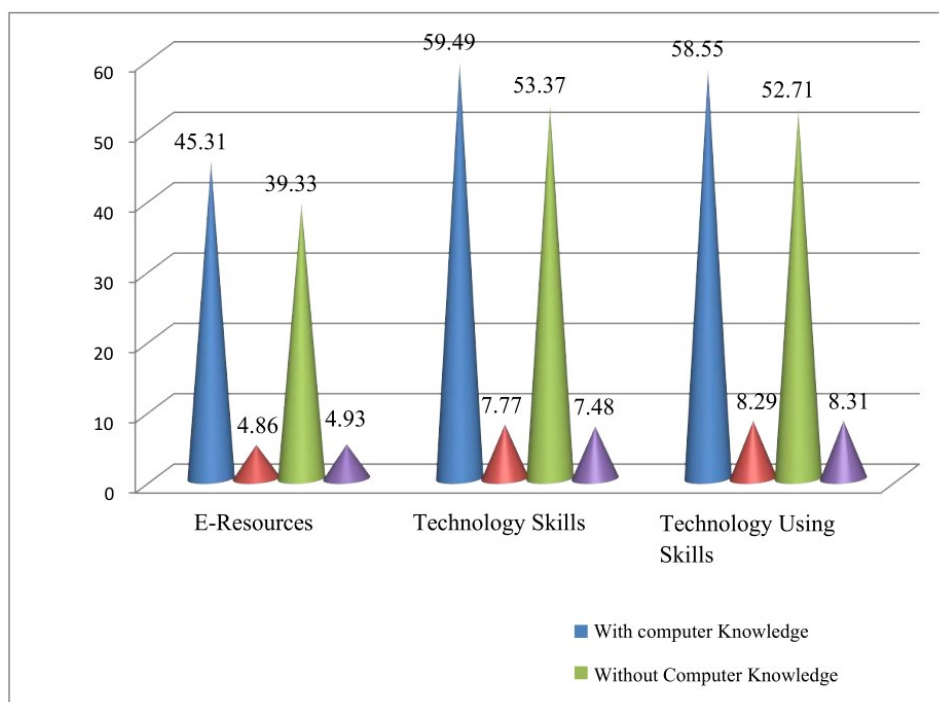
Figure 2. The graph showing the significance of difference in open educational practices and its dimensions of B.Ed. trainees with respect to computer knowledge.

As shown in **Figure 2,** individuals with computer knowledge significantly outperform those without it in all three areas: e-resources, technology skills, and technology usage skills. The largest difference is observed in technology skills, where participants with computer knowledge scored 59.49% compared to 7.77% for those without it.

Table 5. Significance of difference in virtual learning readiness and its dimensions of B.Ed. trainees with respect to gender.

	Dimensions of virtual learning readiness	Male (*N* = 186)		Female(*N* = 774)		't' value	Significant level
		Mean	SD	Mean	SD		
1	Readiness in self-directedlearning	33.09	4.80	33.83	4.69	1.92	NS
2	Readiness in motivationfor learning	28.28	4.38	28.92	4.26	1.82	NS
3	Readiness in computer/internet self-efficacy	29.20	4.40	29.75	4.33	1.55	NS
4	Readiness in learner control	28.58	5.18	37.43	5.29	1.99	S*
5	Readiness in online communication self-efficacy	30.37	5.76	31.26	5.63	1.92	NS
6	Readiness in exposing thehuman resource	23.26	3.91	28.17	3.66	2.25	S*
Virtual learning readiness in total		172.78	28.43	189.13	27.86	1.90	NS

S*—Denotes significant at 0.01 level.
NS—Denotes not significant at 0.05 level.

In **Table 5**, obtained 't' values are significant with respect to Virtual Learning Readiness and its dimensions—Readiness in Learner Control (1.99) and Readiness in Exposing the Human Resource (2.25), readiness in Self-Directed Learning (2.10) and Readiness in Computer/Internet Self-Efficacy (2.17), Readiness in Self-Directed Learning (2.49) of B.Ed. Trainees is statistically significant corresponding at 0.05

level and Readiness in Learner Control (3.87) and Readiness in Self-Directed Learning (2.83), Readiness in Online Communications Self-Efficacy (2.76) of B.Ed. Trainees are statistically significant corresponding at 0.01 level and Readiness in Learner Control (2.32) is statistically significant at 0.05 level of B.Ed. Trainees is statistically significant corresponding at 0.01 of B.Ed. Trainees are statistically significant corresponding at 0.05 level. On the other hand, the obtained 't' values are not significant with respect to Virtual Learning Readiness and its dimensions. 't' values are significant with respect to Virtual Learning Readiness and its dimensions- of B.Ed. Trainees are statistically significant at 0.05 level.

Table 6. Significance of difference in virtual learning readiness and its dimensions of B.Ed. trainees with respect to educational qualification.

Sl. No	Dimensions of virtual learning readiness	UG degree (657)		PG degree (303)		't' value 2.74	Significant level
		Mean	SD	Mean	SD		
1	Readiness in self-directed learning	29.21	4.70	34.73	4.61	2.10	S*
2	Readiness in motivation for learning	28.45	4.25	29.54	4.29	0.69	NS
3	Readiness in computer/internet self-efficacy	25.13	4.38	30.77	4.07	2.17	S*
4	Readiness in learner control	36.70	5.31	38.50	5.00	0.98	NS
5	Readiness in online communication self-efficacy	30.83	5.50	31.65	5.98	1.07	NS
6	Readiness in exposing the human resource	23.53	3.73	24.42	3.65	1.45	NS
	Virtual learning readiness in total	173.85	27.87	189.61	27.60	1.41	NS

S*—Denotes significant at 0.01 level.
NS—Denotes not significant at 0.05 level.

Table 6 clearly shows that the 't' values obtained for virtual learning readiness and its dimensions—Readiness in self-directed learning (2.10), Readiness in Motivation for learning (0.69), Readiness in computer/internet self-efficacy (2.17), Readiness in learner control (0.98), Readiness in online communication self-efficacy (1.07) and Readiness in exposing the human resource (1.45)—among B.Ed. trainees are not statistically significant at the 0.05 level concerning the 'educational qualification'.

Table 7. Significance of difference in virtual learning readiness and its dimensions of B.Ed. trainees with respect to year of study.

Sl.No	Dimensions of virtual learning readiness	I year(488)		II year(472)		't' value	Significant level
		Mean	SD	Mean	SD		
1	Readiness in self-directed learning	30.82	4.89	37.58	4.38	2.49	S*
2	Readiness in motivation for learning	28.19	4.39	29.42	4.09	1.15	NS
3	Readiness in computer/internet self-efficacy	28.76	4.49	30.57	4.00	0.59	NS
4	Readiness in learner control	31.52	5.42	38.04	5.02	3.87	S**
5	Readiness in online communication self-efficacy	28.01	5.65	31.18	5.69	0.49	NS
6	Readiness in exposing thehuman resource	22.49	3.83	24.14	3.57	1.46	NS
	Virtual learning readiness in total	169.79	28.67	190.93	26.75	1.67	NS

S*—Denotes significant at 0.01 level.
NS—Denotes not significant at 0.05 level.

As seen in **Table 7** 't' values for virtual learning readiness and its dimensions—self-directed learning readiness (2.49), motivation for learning readiness (1.15), computer/internet self-efficacy readiness (0.59), online communication self-efficacy readiness (0.49), and human resource exposure readiness (1.46)—among B.Ed. trainees are not statistically significant at the 0.05 and o.o1 level. Therefore, learner control readinesses (3.87) among B.Ed. trainees are statistically significant at the 0.05 and 0.01 level, in relation to their educational qualifications.

Table 8. Significance of difference in virtual learning readiness and its dimensions of B.Ed. trainees with respect to computer knowledge.

Sl. No	Dimensions of virtual learning readiness	With computerknowledge (331)		Without computer knowledge (629)		't' value	Significant level
		Mean	SD	Mean	SD		
1	Readiness in self-directed learning	34.00	4.71	33.52	4.72	1.48	NS
2	Readiness in motivation for learning	32.80	4.27	26.79	4.31	2.05	S*
3	Readiness in computer/internet self-efficacy	33.54	4.41	27.71	4.32	2.41	S*
4	Readiness in learner control	37.48	5.12	37.16	5.36	0.90	NS
5	Readiness in online communication self-efficacy	31.10	5.68	24.03	3.84	2.17	S*
6	Readiness in exposingthe human resource	24.03	3.84	23.69	3.65	1.34	NS
	Virtual learning readiness in total	192.95	28.03	172.90	26.20	1.72	NS

S*—Denotes significant at 0.01 level.
NS—Denotes not significant at 0.05 level.

It can be seen in **Table 8** that the 't' values obtained for virtual learning readiness and its dimensions—Readiness in self-directed learning (1.48), Readiness in Motivation for learning (2.05), Readiness in computer/internet self-efficacy (2.41), Readiness in learner control (0.90), Readiness in online communication self-efficacy (2.17) and Readiness in exposing the human resource (1.34)—among B.Ed. trainees are not statistically significant at the 0.05 and 0.01 level concerning the 'computer Knowledge'.

Table 9. Correlation between open educational practices and virtual learning readiness among B.Ed. trainees.

Variables	*N*	Df	Calculated '*t*'value	Remarks
Open educational practices Virtual learning readiness	960	958	0.61	Significant

From **Table 9**, it is observed that the Open Educational Practices score and Virtual Learning Readiness are significantly correlation. It reveals that 'r' 0.61, which is significant at 0.01 level. Hence, the null hypothesis that 'There exists no significant relationship between open educational practices, and virtual learning readiness of B.Ed. Trainees is rejected. Therefore, it can be concluded that there is a significant and positive correlation exists between the Open Educational Practices and Virtual Learning Readiness.

9. Discussion

The present study intended to know Open Educational Practices and Virtual Learning Readiness among B.Ed. Trainees and also to know their level in its types such as Open Educational Practices, Technology Skills, Technology Using Skills, Readiness in Self-Directed Learning, Readiness in Motivation for Learning, Readiness in computer/Interne Self-Efficacy, Readiness in Learner Control, Readiness in Online Communication Self-Efficacy, Readiness in managing the Human Resource Readiness, Technology in preparation for Teaching, Technology in providing motivation, Technology in presentation, Technology in Evaluation with respect to background variables [9]. The current trend of education is towards the implementation of technology in learning and teaching in order to attract the attention of 21st century learners [10] whereby B.Ed. Trainees need to adopt technology-enhanced such as the open educational practices and virtual learning readiness among B.Ed. Trainees in their learning and teaching. This study aimed at Open Educational Practices and Virtual Learning Readiness among B.Ed. Trainees along with some demographic variables like Gender, Age, Type of Institution and etc. The findings of the study pointed out many significant implications [11]. The study found that the PG Degree qualified B.Ed. Trainees have better in their Open Educational Practices is in line with the finding [12]. showed that PG Degree B.Ed. Trainees have better Open Educational practices than the UG Degree qualified B.Ed. Trainees and showed that UG and PG Degree qualified B.Ed. Trainees have better in their Open Educational Practices in some dimensions. Since, the studies found results it possess a stronger implication for a much larger study to show much authentic results. Another finding on the present study is that on the basis of Gender [13]. The study found that the female B.Ed. Trainees were better in their Virtual Learning Readiness is in line with the findings supported by Kotur and Mulimani [14] showed that female B.Ed. Trainees have better Virtual Learning Readiness than the male B.Ed. Trainees and male and female B.Ed. Trainees have better in their Virtual Learning Readiness in some dimensions. Another finding on the present study is that on the basis of Medium of Instruction. The present study found that based on my research, Open Educational Practices and Virtual Learning Readiness among B.Ed. Trainees have significantly improved in their learning.

10. Conclusion

According to the present study, the results focused on Open Educational Practices and Virtual Learning Readiness of B.Ed. Trainees were found at moderate level. The exploration of Open Educational Practices (OEP) and virtual learning readiness among B.Ed. trainees reveals a complex interplay between technology adoption, pedagogical innovation, and learner preparedness [15]. The integration of OEP in teacher education programs has the potential to democratize access to educational resources, foster collaborative learning, and enhance the quality of teacher training. However, the effectiveness of OEP relies heavily on the readiness of trainees to engage in virtual learning environments.

The findings suggest that while many B.Ed. trainees demonstrate a basic level of readiness for virtual learning, there are significant variations in digital literacy,

access to technology, and attitudes towards open educational resources. These disparities indicate a need for targeted interventions, such as professional development programs, to enhance the digital competencies of future educators. Moreover, the study underscores the importance of institutional support in the successful implementation of OEP. Educational institutions must provide the necessary infrastructure, technical support, and pedagogical guidance to ensure that B.Ed. trainees can fully benefit from open educational resources and virtual learning platforms.

In conclusion, fostering a culture of openness and digital readiness among B.Ed. trainees is crucial for the future of teacher education [16]. By embracing OEP and enhancing virtual learning readiness, teacher education programs can better prepare future educators to meet the challenges of a rapidly evolving educational landscape. Hence, it is time to incorporate a set of programmes in colleges of education for developing and improving open educational practices and virtual learning readiness-among B.Ed. Trainees, in the context of digitalization of education.

11. Educational implications

In the light of the findings of the study and interpretations of the results, the following implications are put forward for the betterment of the B.Ed. Trainees of colleges of education for building teachers. they could be provided with proper practices and training with the help of technology experts in the field of education and knowledge resources have to reach out a large number of people through various means in a seamless way. Based on the study's findings and interpretations, several key implications are suggested to enhance the training and development of B.Ed. trainees within the framework of modern education:

- The curriculum and syllabus should be continuously updated and revamped to incorporate technological advancements. By integrating technology into the learning process, B.Ed. trainees' skills can be significantly enriched, ensuring they are well-prepared for the demands of modern teaching.
- The use of modern educational gadgets as e-resources in teaching and learning can keep B.Ed. trainees' knowledge up-to-date. This approach will prepare them to face future educational challenges confidently, using inclusive and immersive technologies.
- B.Ed. trainees should be encouraged to develop new technology skills and implement innovative ideas in collaboration with colleagues, students, and institutional leaders. This will promote an effective work environment and support the establishment of a robust virtual learning environment.

By applying these strategies within the educational framework, B.Ed. trainees will be better equipped to become competent, innovative, and confident educators in the evolving educational landscape.

12. Recommendations

The following recommendations have been made based on the findings of the present study.

- The average response of Open Educational Resources (as indicated by the average score of 0.71 suggested that integrating more digital content into the curriculum could be beneficial. This might involve updating learning materials to include a wider range of e-resources or providing more opportunities for students and educators to use these tools.
- Awareness on Techno-emotive pedagogy may be generated among the B.Ed. Trainees and Modern tools operating techniques should be provided in every College of Education to motivate the B.Ed. Trainees.
- Virtual learning readiness is crucial for B.Ed. trainees, as it prepares them for modern educational environments. To enhance their effectiveness, various innovative teaching techniques and interactive learning strategies should be adopted:
- Workshops and Training Sessions: These provide hands-on experience and practical knowledge, enabling trainees to engage actively with new teaching methods and tools.
- OEP-Integrated Courses (Open Educational Practices): These courses encourage collaborative learning and the use of open resources, fostering a flexible and inclusive educational approach.
- Certificate Courses in Educational Technology: These specialized courses equip trainees with the latest technological skills, ensuring they can effectively integrate technology into their teaching practices.
- Since, the virtual learning readiness is the important learning techniques for the B.Ed. Trainees, the innovative and teaching techniques, and the interactive learning strategies like Workshops and Training Sessions, OEP-Integrated Courses, Certificate Courses in Educational Technology should be adopted that are effective for B.Ed. Trainees of different learning environment.

Conflict of interest: The author declares no conflict of interest.

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