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Awareness of Digital Education among College of Teacher Education Students in Rural Areas of Tiruchirappalli District

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Abstract:

Digital penetration in general has seen major improvement in recent years. This has come to rescue the education sector in times of global pandemic and consequent lock downs. This paper has examined the awareness of digital education among college of teacher education students in rural areas of Tiruchirappalli in terms of knowledge about digital education and skill of using digital applications, digital medium and digital devices. The present study also explored the differences in awareness of digital education among college of teacher education students in rural areas by gender, college of education class, and level of educational qualification. The researcher prepared a close ended structured questionnaire measuring the responses of knowledge and skill about digital education. It was found that majority of the college of teacher education students were adequately aware about leaning management system, spam, MOOC and virtual labs.

The college of teacher education students were found to have good skill in using word process application, presentation application and video sharing sites. Only around 20% of the college of teacher education students were part of any forum or interests group and used virtual labs in learning. It was also found that college of teacher education students have adequate knowledge about digital education and skill of using digital medium and digital devices as the mean score was more than fifty percent. It was observed that the awareness about government initiatives in digital education was not adequate among college of teacher education students.

Keywords: *Digital Education, College of Teacher Education Students, Government Initiatives.*

1. INTRODUCTION:

The NEP 2020 of India emphasises that India is a global leader in information and communication technology and in other cutting-edge domains, such as space. The Digital India Campaign is helping to

transform the entire nation into a digitally empowered society and knowledge economy. While education will play a critical role in this transformation, technology itself will play an important role in the improvement of educational processes and outcomes; thus, the relationship between technology and education at all levels is bidirectional. It also recommends that suitable teacher training is required to prepare teacher as effective online educators. Digital education requires change in pedagogy, different approach for online assessment, blended approach, availability of educational programmes 24X7 hours, virtual labs, digital platforms, ICT initiatives, investment on creation of open, interruptive, evolvable, public digital infrastructure, providing assistive tools for monitoring progress of diverse groups of learners.

It is understandable that the role of student is important for development of digital education. The teacher needs to be well prepared to work in a digital world especially digital classroom and be able to improve learning outcomes and enable them to integrate pedagogy and technology for transforming education in a progressive direction. Developed competency of a digital student will enable them to increase the learning outcome and integration of pedagogy and ICT. Therefore, it is essential to understand the current level of awareness of college of teacher education students for digital education so that future initiatives can be taken to improve the competency of college of teacher education students for digital education. Hence, this study has tried to understand the awareness of digital education among college of teacher education students in terms of knowledge and skill of college of teacher education students for using digital tools and technologies in the process of teaching and learning.

2. NEED OF THE STUDY:

With the outbreak of COVID-19, colleges and teachers have no choice but to take on online teaching learning pedagogies. However, many teachers are unfamiliar or indifferent to online education using technology-led materials. Thus, this unique scenario has provided an ideal arena to understand the current level of awareness of teacher education students for digital education so that future initiatives can be taken to improve the competency of teacher education students for digital education.

There have been many government initiatives in digital education it would be an interesting to look at the awareness level of these initiatives in teacher education students.

The present study was conducted to explore differences in awareness of digital education among college of teacher education students by gender, college education class, and level of educational qualification.

3. REVIEW OF RELATED LITERATURE:

The researcher explored various international and regional studies conducted in the field of digital education, digital literacy, e-learning, government initiatives in the field of digital education particularly in relation to school education and teacher education.

(Siu Cheung Kong, 2014) intended to discuss the research issues and policy implications for Developing 21st Century Skills in school reviewed literature in the related fields indicated that K-12 schools should take advantage of e-learning to maximize learning opportunities of learners for the development of 21st century skills. The researchers recognised six research issues critical for e-learning in school education, viz. the realization of developing 21st century skills of learners; the linking of the gap between curriculum in school and situations in society; the extension of learning opportunities in the learning process; the gathering of evidence of improvement and building awareness of progress; the assessment of 21st century skills; and the avenues of teacher development for enculturating learners to develop 21st century skills.

(Mohile, 2021) was conducted to investigate Awareness of SWAYAM(MOOCs) among the undergraduate and Post Graduate students. The study revealed that there was less awareness of MOOCs and SWAYAM among the students, but students showed an encouraging attitude towards taking this online platform for various online courses provided by government. The study suggested that necessary steps should be initiated by government, Educational Institutions, Universities, and all coordinators of SWAYAM to promote it on larger scale among the students community.

4. STATEMENT OF THE PROBLEM:

Awareness of Digital Education among College of Teacher Education Students in Rural Areas of Tiruchirappalli District

5. OPERATIONAL DEFINITIONS:

Awareness: For the present study awareness is defined as the knowledge and skill of college of teacher education students for using digital applications, digital medium and digital devices.

Knowledge: For the present study knowledge of digital education has been defined as the familiarity of teacher education students with the concept of digital education, safely and security in digital education and about the various government initiatives in digital education.

Skill: For the present study the skill has been defined as the ability of teacher education students for using digital applications, digital medium and digital devices.

College of Teacher Education Students: Teacher education students for the present study are the students enrolled in B.Ed. and M.Ed.

Digital education: Digital education for the present study is defined as the process of learning using digital applications, digital medium and digital devices.

6. AIM OF STUDY:

- To Study the Awareness of Digital Education in B.Ed. and M.Ed. college of teacher education students.

7. OBJECTIVES OF THE STUDY:

- To examine the level of awareness of digital education among the college of teacher education students in terms of knowledge and skills for using digital tools and technology in learning
- To find out whether college of teacher education students have adequate knowledge about digital education or not.
- To find out whether college of teacher education students have adequate skill of using digital medium and digital devices in learning.
- To compare the awareness of digital education among college of teacher education students based on gender.
- To compare the awareness of digital education among college of teacher education students based on college education class

- To compare the awareness of digital education among college of teacher education students based on level of educational qualification

8. RESEARCH QUESTIONS:

- What is the level of awareness of digital education among the college of teacher education students in terms of knowledge and skills for using digital tools and technology in learning?
- Do college of teacher education students have adequate knowledge about digital education? Teacher education students have adequate skill of using digital medium and digital devices in learning?

9. SCOPE AND DELIMITATION OF THE STUDY:

- The study it has been subjected to only B.Ed and M.Ed students.
- The study is delimited to Tiruchirappalli district. So, there is scope that study can be done at state level.

10. METHODOLOGY OF THE STUDY:

The descriptive survey method has been adopted in the present research.

11. SAMPLE AND SAMPLING TECHNIQUE:

The researcher considered the simple random sampling technique for the present study. The sample selected for the study consists of total of 98 teacher education students enrolled in B.Ed. and M.Ed. course in Tiruchirappalli. The number of B.Ed. and M.Ed. teacher education students was 76 and 22 respectively.

12. DATA COLLECTION TOOL:

Self-developed questionnaire based on the awareness of digital education in the two domains that is knowledge about digital education and skill of using digital applications, medium and devices in learning process. The validity of tools was ensured by taking expert comments. Total numbers of items were 43 in close ended form. The questionnaire was delivered to the college of teacher education students through Google forms and took approximately 1o to 15 min to respond.

13. STATISTICAL DATA ANALYSIS:

The collected data were analyzed as per the research questions of the study by using frequency and percentage and qualitative descriptions. The collected data was coded numerically and entered in MS Excel for analysis.

14. DATA ANALYSIS AND INTERPRETATION:

RQ 1- What is the level of awareness of digital education among the college of teacher education students in terms of knowledge and skills for using digital applications, digital medium and digital devices?

Table 1: Teacher Education Students-knowledge about digital education

		Yes		No
items	**frequency**	**%**	**frequency**	**%**
LMS	96	97.96	2.00	2.04
spam	87	88.78	11.00	11.22
awareness about virtual labs	69	70.41	29.00	29.59
synchronous or asynchronous	67	68.37	31.00	31.63
MOOC	63	64.29	35.00	35.71
authentication	63	64.29	35.00	35.71
OER	52	53.06	46.00	46.94
phishing	49	50.00	49.00	50.00
DAISY	48	48.98	50.00	51.02
offline and online	46	46.94	52.00	53.06

Table1 indicates that more than 90% of teacher education students were aware about LMS and approx. 89% of teacher education students were aware about spam. Approx. 70% of teacher education students were aware about virtual labs. Around 64% of teacher education students were aware about MOOC and authentication. Approx. 53% of teacher education students were aware about OER. Further, around 53% of teacher education students were not aware about offline and online mode of digital education.

Table 2: Teacher Education Students - Working with Digital Application

items	Acceptable	Do not Know	Good	Poor
word process applications	22.4	0.0	76.5	1.0
Video sharing sites	20.4	1.0	76.5	2.0
Presentation applications	24.5	1.0	72.4	2.0
Social networking services	26.5	4.1	61.2	8.2
Spreadsheet applications	40.8	2.0	53.1	4.1
Database applications	31.6	15.3	39.8	13.3
Google Workspace	30.6	14.3	38.8	16.3
Podcasts	27.6	24.5	27.6	20.4

The Table 2 indicates that around 76.5% of teacher education students had good knowledge about word process applications and video sharing sites. About 72% of teacher education students were observed to have good knowledge about presentation applications. Around 61% of teacher education students had good knowledge about social networking sites. Only around 40% of teacher education students were found to have good knowledge of database application and Google workspace. Only around 28% of teacher education students had good knowledge about podcasts.

Table 3: Teacher Education Students - Skill of using Digital Medium and Devices

items	**Yes**	**No**
have WhatsApp group for the class	94	4
create teaching material digitally	70	28
record and edit digital videos	69	29
write files on to a CD, a DVD, or a USB drive	58	40
personal portfolio on the internet	54	44
done any online course	45	53
part of any forum or interests' group	19	79
virtual labs in teaching and learning	18	80

The Table 3 points out that 94 out of 98 teacher education students have WhatsApp group for class. 70 out of 98 teacher education students were able to create teaching material digitally. Only 45 teacher education students were found to have done any online course. Very few teacher education students were part of any forum or interest group. Only 18 teacher education students were observed to have use virtual labs in teaching and learning. 58 teacher education students can write files on to a CD, a DVD, or a USB drive.

15. MAJOR FINDINGS:

1. Majority of the teacher education students were adequately aware about learning management system and spam, virtual labs, MOOC and synchronous or asynchronous mode of digital education. Teacher education students were not adequately aware about DAISY, and offline and online mode of digital education.

2. Majority of the teacher education students had good skill of using word process application, video sharing sites and presentation application. Only around 20% of the teacher education students.

3. Teacher education students have adequate knowledge about digital education as the mean score was more than fifty percent.

4. Teacher education students have adequate skill of using digital medium and digital devices in teaching and learning.

5. B.Ed. Teacher education students were found to have better ability to work with video sharing sites, presentation applications, spreadsheet, database application, Google workspace and podcasts as compared to M.Ed. teacher education students.

6. B. Ed teacher education students had better skill of using digital medium and digital devices than M.Ed. teacher education students.

7. B.Ed Teacher education students and M.Ed. teacher education students were found to have more registration in DIKSHA and SWAYAM.

8. Awareness about NISHTHA, PRAGYATA, SWAYAM Prabha, IITPAL and NROER found to be inadequate

16. EDUCATIONAL IMPLICATIONS:

Based on the research findings, the researcher has put forth the following educational implications of the study: The teacher education institute must make it compulsory for teacher education students to deliver specific number of lessons by using digital tools and digital technologies. College of teacher education students can explore digital technologies (LMS, apps, web portals, digital labs etc), repositories of Open Educational Resources (OERs) at national/ State/global level. Teacher education institutes should regularly organize webinars, online training programmes and online courses on ICT Pedagogy- Content integration. Teacher educators play facilitating role in motivating and engaging teacher education students in employing digital devices for teaching and learning. Therefore, training of all teacher educators must be organized so that they can utilize digital devices in teaching and assessing. They must show the uses of different digital devices in the field of school education and teacher education-book etc can be utilized for sharing and commenting in educational problems and issues so that teacher education students will develop skills and capabilities of using for learning and teaching.

17. CONCLUSION:

To alleviate the impact of the pandemic, educational institutes will not only have to adapt and reimaging the way teaching and learning have happened so far but will also need to introduce a suitable method of delivering quality education. In this regard digital education has evolved as a saviour. The rapid increase in internet penetration and various government initiatives such as Digital India campaign have created an encouraging environment for moving towards digital education.

The study has attempted to examine the awareness of digital education among teacher education students enrolled in B.Ed. and M.Ed. course. Although the results indicates that awareness of digital education in terms of knowledge and skill of using digital medium and digital devices was adequate, but it was not as expected for education in digital age. Hence there is a scope to work in this area so that knowledge and skill of teacher education students can be improved upon to reach higher level of adequacy. The results also revealed that the awareness of teacher education students about government initiatives was not adequate. This area needs to be further explored by various stakeholders in education. The future studies might help in coming out with ways that digital education becomes inherent part of the teacher education students.

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