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EMPOWERING FUTURE EDUCATORS: ENHANCING E-CONTENT COMPETENCY AMONG B.ED. STUDENTS IN CHENNAI

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ABSTRACT
In the modern educational landscape, technology plays an essential role in enhancing teaching and learning processes. Particularly, the integration of e-content has emerged as a powerful tool in teacher education. This study focuses on assessing and promoting e-content knowledge among B.Ed. students in Chennai district. The core objective is to evaluate the impact of electronic content-based instructional strategies on the digital competencies of student-teachers. The research adopted a single group experimental design. A total of 60 B.Ed. student-teachers from a reputed teacher education institution in Chennai were selected using a non-probability convenience sampling technique. The intervention included training in e-content development tools and platforms such as PowerPoint, Prezi, Canva, Google Classroom, Video Editing Software, Screencasting Tools, and Interactive Learning Modules. Data were analyzed using mean, standard deviation, and t-test. Findings reveal a significant improvement in post-test scores compared to pre-test scores, confirming the effectiveness of e-content-based learning in enhancing digital literacy among teacher trainees.

KEYWORDS: *e-Content, Digital Literacy, B.Ed. Students, Electronic Presentation, ICT in Teacher Education*

1. INTRODUCTION

In today's educational environment, the role of technology, particularly in the form of e-content, has become indispensable. E-content refers to digitally developed instructional materials used for effective teaching and learning. Teacher trainees, especially those in integrated programs like B.Ed., must possess the ability to create, use, and integrate e-content into classroom practice to meet the demands of 21st-century learners.

The National Education Policy (NEP) 2020 emphasizes the importance of integrating ICT and digital tools into teacher education. Hence, it is vital that teacher trainees are not only aware of traditional computer skills but are also proficient in developing and using digital content to facilitate interactive and student-centered learning.

Computers are not only storage devices and processing units, but also are excellent communication media. They are the means to access the Internet and get connected to the world. They are also an effective audio-visual media. Computers can be used to access a vast knowledge base and search for information archives over the Internet. Only computer education can facilitate the use of computers for purposes of communication and entertainment. Importance of Computer Education in Teacher Education It is a known fact that no field is untouched by computers. Unless one has the ability to make use of computers in the respective fields, he/she is considered to be an illiterate, even though he/she is educated. He / she is known as an educated illiterate in the modern era. A computer literate is a person having a basic understanding of the computers and is able to use it for his own benefit.

2. NEED FOR THE STUDY

Many student-teachers still lack adequate exposure to e-content development and application. This deficiency hampers their ability to integrate digital tools effectively in the classroom. Providing systematic training through structured electronic content and guided practice can significantly enhance their skills. The study aims to bridge this gap by exposing B.Ed. students to various e-content creation tools and assessing their progress.

3. OBJECTIVES OF THE STUDY

- To assess the initial level of e-content knowledge among B.Ed. students.
- To promote e-content knowledge among B.Ed. students through structured digital training.
- To evaluate the effectiveness of e-content-based learning through a comparison of pre-test and post-test performance.

4. HYPOTHESIS

- There is a significant difference between the pre-test and post-test scores of e-content knowledge among B.Ed. students after the intervention.
- There is a significant improvement in multimedia content creation skills among B.Ed. students after the training.
- There is a significant difference in confidence levels in using digital tools for teaching before and after the intervention.
- There is a significant enhancement in the ability to integrate interactive tools (Kahoot, Quizizz) in teaching practices post-intervention.

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5. VARIABLES OF THE STUDY

Independent Variable: Electronic Content-Based Learning

Dependent Variable: e-Content Knowledge among B.Ed. Students

6. METHODOLOGY

In the present study, the investigator employed a single group experimental method to assess the effectiveness of an intervention aimed at promoting e-content knowledge among B.Ed. student-teachers. This design involved administering both a pre-test and a post-test to the same group of participants, allowing the researcher to measure the impact of the intervention directly. The sample consisted of 60 B.Ed. student-teachers who were enrolled in a teacher education college located in the Chennai district. These participants were selected using a non-probability convenience sampling technique, which was appropriate given the accessibility of the students and the practical constraints of the study. The duration of the intervention was 10 days, during which the participants were exposed to structured training sessions focused on basic computer operations, Microsoft Office applications, Internet and email usage, HTML fundamentals, and multimedia-based e-content development. This short-term yet intensive intervention was designed to provide hands-on experience and practical exposure to digital tools essential for modern teaching practices.

Tools Used for Training

- MS PowerPoint
- Canva
- Prezi
- Google Slides
- Video editing tools (e.g., Filmora, OpenShot)
- Screencast-O-Matic
- Google Classroom
- Kahoot, Quizizz (for interactive assessments)
- Basics of HTML and multimedia integration

7. DATA ANALYSIS

Hypothesis 1

H1: There is a significant difference between the pre-test and post-test scores of e-content knowledge among B.Ed. students after the intervention.

Test	N	Mean	SD	Calculated t-value	Result at 0.05 level
Pre-Test	60	21.15	4.10	20.42	Significant
Post-Test	60	36.42	4.58		

The Mean scores of Pre-test and Post-test were 21.15 and 36.42 respectively, with Standard Deviations of 4.10 and 4.58. The calculated 't' value of 20.42 is greater than the critical value of 1.96 at the 0.05 level, indicating a statistically significant improvement in students' e-content knowledge after the intervention. Hence, the hypothesis is accepted.

Hypothesis 2

H2: There is a significant improvement in multimedia content creation skills among B.Ed. students after the training.

Test	N	Mean	SD	Calculated t-value	Result at 0.05 level
Pre-Test	60	18.25	3.90	18.76	Significant
Post-Test	60	34.10	4.50		

The Mean scores of Pre-test and Post-test were 18.25 and 34.10 respectively, and Standard Deviations were 3.90 and 4.50. The calculated t-value of 18.76 is much greater than the table value of 1.96 at 0.05 significance level. This indicates that there was a statistically significant improvement in multimedia content creation skills post-training. The hypothesis is accepted.

Hypothesis 3

H3: There is a significant difference in confidence levels in using digital tools for teaching before and after the intervention.

Test	N	Mean	SD	Calculated t-value	Result at 0.05 level
Pre-Test	60	20.45	4.20	16.38	Significant
Post-Test	60	33.60	5.00		

The Mean scores of confidence in using digital tools were 20.45 (Pre) and 33.60 (Post), with SDs of 4.20 and 5.00 respectively. The calculated t-value is 16.38, which exceeds the table value of 1.96 at 0.05 level. Thus, there is a statistically significant increase in the students' confidence after the digital training. Hypothesis is accepted.

Hypothesis 4

H4: There is a significant enhancement in the ability to integrate interactive tools (Kahoot, Quizizz) in teaching practices post-intervention.

Test	N	Mean	SD	Calculated t-value	Result at 0.05 level
Pre-Test	60	19.35	3.75	19.10	Significant
Post-Test	60	35.00	4.85		

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The Mean scores before and after intervention were 19.35 and 35.00 respectively, with SDs of 3.75 and 4.85. The calculated t-value is 19.10, which is greater than the critical value of 1.96. Hence, there is a statistically significant enhancement in the ability to use interactive tools in teaching. Hypothesis is accepted.

8. FINDINGS

- The study revealed a statistically significant increase in the e-content knowledge of B.Ed. student-teachers following the intervention.
- At the outset, approximately 55% of the participants exhibited limited proficiency in creating e-content, highlighting a clear skills gap.
- After the 10-day structured training program, students demonstrated notable improvement in their ability to design and integrate multimedia elements effectively into digital content.
- Students who initially scored lower in the pre-test showed marked progress, reaching higher levels of competency in the post-test assessments.
- Many participants also reported enhanced confidence and motivation in utilizing digital tools, reflecting a positive shift in their attitude toward technology integration in teaching.

9. EDUCATIONAL IMPLICATIONS

The findings underscore the critical importance of effective computer and digital literacy training in teacher education programs. The results suggest that systematic and practical instruction in e-content development can substantially elevate the digital competencies of future educators, thereby improving their overall teaching effectiveness.

This study emphasizes the urgent need for teacher education curricula to incorporate hands-on e-content development modules as a fundamental component. In the context of today's technology-driven educational environment, it is essential for prospective teachers to be equipped with the skills to design, develop, and implement engaging, interactive, and pedagogically sound digital instructional materials.

Integrating e-content within teaching and learning processes significantly enhances student engagement by providing visually appealing and interactive learning experiences that cater to diverse learning preferences. Such digital resources support differentiated instruction, enabling educators to address the varied learning styles, speeds, and abilities present in inclusive classrooms, thus fostering an equitable learning environment.

Furthermore, digital content promotes peer-to-peer and self-paced learning opportunities, granting learners greater autonomy and flexibility over their educational journeys. E-content platforms facilitate continuous teacher-student interaction beyond traditional classroom settings, creating richer opportunities for timely feedback, collaboration, and discussion. This shift reduces over-reliance on teachers, encouraging learners to take responsibility for their learning and develop independent study skills—an essential competence for lifelong learning.

10. CONCLUSION

In the digital age, e-content knowledge is an essential component of teacher education. B.Ed. students must be proficient not only in subject knowledge but also in using digital tools effectively. This study demonstrates that structured training in e-content tools significantly enhances student-teachers' digital competencies. The electronic presentation and creation of content not only help students to understand concepts better but also prepare them for real classroom challenges. Therefore, teacher education institutions must prioritize the integration of e-content development training into their curriculum to prepare future-ready educators.

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