



A Study on the Basic Computer Literacy Level of M.Ed. Trainees of Manipur

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ABSTRACT

The growing integration of Information and Communication Technology (ICT) has transformed teacher education, making computer literacy an indispensable competency for prospective educators. This study investigates the basic computer literacy levels of Master of Education (M.Ed.) trainees in Manipur. A descriptive survey design was employed, and data were collected from 100 trainees across two institutions—D.M. College of Teacher Education (DMCTE) and R.K. Sanatombi Devi College of Education (RKSDCE)—using a structured questionnaire, these are the only two M.Ed. colleges of Manipur. Data analysis involved descriptive statistics (mean, percentage, and standard deviation) and inferential statistics (t-test). Results revealed that M.Ed. trainees demonstrated satisfactory proficiency in fundamental applications such as word processing, presentations, and internet use, though gaps persisted in advanced applications and pedagogical integration of technology. While trainees from DMCTE showed slightly higher competency compared to RKSDCE, the difference was statistically insignificant. The findings highlight the need to strengthen ICT training within teacher education curricula, ensuring future educators are well-equipped to function effectively in digitally driven classrooms.



Introduction

In the 21st century, education is increasingly shaped by digital technology. The emergence of ICT has redefined teaching-learning processes, demanding educators who are competent in both pedagogical and technological domains (Mishra & Koehler, 2006). In India, policy frameworks such as the National Education Policy (NEP, 2020) emphasize ICT integration as a means to improve access, equity, and quality in education. Consequently, teacher education programs must ensure that prospective educators possess essential computer literacy skills.

Computer literacy, defined as the ability to use computers and related technologies effectively, is no longer optional but fundamental for teachers at all levels (Luehrmann, 1982). For M.Ed. trainees, who will become teacher educators themselves, computer literacy is critical not only for personal academic growth but also for preparing future teachers. In a state like Manipur, where digital infrastructure is gradually expanding, understanding the current status of computer literacy among M.Ed. trainees is crucial for bridging gaps between policy aspirations and ground realities.

Background of the Study

Manipur, a North-Eastern state of India, faces unique challenges in the integration of technology in education due to infrastructural limitations, uneven digital access, and varying levels of ICT exposure (Usou & Joseph, 2020). However, teacher training institutions in the state are gradually embedding ICT components within their curriculum.

Previous studies at the national and international levels highlight the positive correlation between computer literacy and teacher effectiveness (Rahman, 2011; Wazir, 2018). Research also suggests that trainees often possess only basic digital skills, with limited competence in advanced applications or pedagogical integration (Das, 2020). Within this context, the present study was conducted to examine the level of basic computer literacy among M.Ed. trainees in Manipur and to identify areas where additional support is required.

Review of Related Literature

A number of studies conducted both in India and abroad highlight the importance of computer literacy for teachers and teacher trainees. Internationally, Rahman (2011) found that teacher educators in Bangladesh exhibited positive attitudes towards computer use in instructional contexts, though their skill levels varied. Wazir (2018) revealed that computers significantly enhance student learning at the



secondary level, with over 70% of teachers recognizing their impact. In Nigeria, Michael and Samuel (2018) discovered that teachers possessed adequate computer literacy but struggled with integration into pedagogy.

At the national level, Mohalik (2020) and Parida & Rout (2021) reported that teacher trainees in Odisha demonstrated moderate levels of digital literacy, with strong performance in word processing but weaker skills in advanced applications. Deviam (2016) also observed a moderate level of computer literacy among B.Ed. teacher trainees in Tamil Nadu, suggesting a pressing need for more structured ICT training. In North-East India, Das (2020) highlighted challenges related to infrastructure, access, and availability of qualified ICT trainers. Usou and Joseph (2020) further emphasized that while NEP 2020 provides opportunities for ICT-based teacher education, implementation hurdles remain significant in Manipur.

This review suggests that while basic computer literacy is increasingly present among teacher trainees, integration into pedagogy and higher-order digital competencies remain underdeveloped, making continuous training imperative.

Statement of the Problem

The integration of Information and Communication Technology (ICT) has become an indispensable part of teaching and learning in the 21st century. Teachers are expected not only to be consumers of digital tools but also facilitators of technology-based learning. However, the degree of computer literacy among teacher trainees in India varies significantly across regions and institutions. In technologically advanced states, trainees often receive early exposure to computers, whereas in states like Manipur, limited infrastructure, inconsistent electricity, and socio-economic barriers restrict access to digital resources.

M.Ed. trainees hold a unique position in this landscape, as they are being prepared to become teacher educators and academic leaders. If they lack adequate computer literacy, the gap will multiply—impacting not only their own efficiency but also the digital preparedness of future generations of teachers they will train. Prior studies (Das, 2020; Usou & Joseph, 2020) have already indicated that ICT integration in teacher education in North-East India is hindered by systemic constraints, yet empirical data specifically focusing on M.Ed. trainees in Manipur remains scarce.

Therefore, this study addresses the pressing question: What is the current level of basic computer literacy among M.Ed. trainees in Manipur, and are there significant differences across institutions? The problem extends beyond measuring technical skills—it also involves identifying skill gaps, understanding institutional differences, and suggesting ways to bridge the digital divide. This inquiry is vital to align



teacher education in Manipur with the broader objectives of the National Education Policy (NEP, 2020), which envisions technologically empowered educators capable of navigating the challenges of a digital society.

Importance of the Study

This study holds significance at multiple levels—academic, institutional, and policy.

For Teacher Trainees: The findings provide M.Ed. trainees with a clear understanding of their strengths and weaknesses in computer literacy. Identifying gaps helps them take corrective steps, ensuring they are better prepared to use technology for academic work, lesson planning, and instructional delivery.

For Teacher Educators and Institutions: Teacher education colleges such as DMCTE and RKSDCE can use the results to evaluate the effectiveness of their ICT training components. Institutions will be able to redesign their curriculum to incorporate more practical, hands-on training in computer applications and technology integration in pedagogy.

For Education Policy: The study aligns with the *National Education Policy (NEP, 2020)*, which highlights the necessity of ICT integration in teaching and learning. By providing localized data from Manipur, this research contributes to evidence-based policy implementation in the state's teacher education programs.

For Research and Literature: Empirical studies on ICT literacy among postgraduate teacher trainees in North-East India are limited. This study adds to the existing body of knowledge, offering insights into the digital preparedness of future teacher educators in a region often underrepresented in national research.

For Society and Students: Ultimately, improving the computer literacy of M.Ed. trainees has a cascading effect. As these trainees become teacher educators, their digital competence will influence the preparedness of future teachers, who in turn shape the digital learning environment for school students. This chain impact enhances educational quality, equity, and accessibility in Manipur.

Scope of the Study

This study is confined to examining the *basic computer literacy levels* of Master of Education (M.Ed.) trainees in Manipur. The focus is on assessing trainees' proficiency in essential computer applications such as word processing, spreadsheets, presentations, internet browsing, email, and file management. The



research does not extend to advanced skills such as programming, specialized software, or in-depth pedagogical applications of technology.

The study is delimited to *two teacher education institutions* in Imphal—Dhanamanjuri College of Teacher Education (DMCTE) and R.K. Sanatombi Devi College of Education (RKSDCE). The sample consists of 100 trainees (50 from each institution), selected through convenience sampling. As such, the results may not fully represent all M.Ed. trainees across Manipur or other states of North-East India.

The timeframe of the study is restricted to one academic session, which means changes in computer literacy levels over multiple years could not be captured. Furthermore, the study is quantitative in nature, focusing on self-reported data from a structured questionnaire. Qualitative aspects such as attitudes, challenges, or personal experiences with technology were not explored in depth.

Despite these limitations, the study provides valuable insights into the current status of computer literacy among postgraduate teacher trainees in Manipur. It lays the groundwork for future research that could incorporate broader samples, longitudinal designs, or mixed-method approaches to develop a more comprehensive picture.

Objectives of the Study

1. To assess the frequency and proficiency of M.Ed. trainees' use of basic computer applications.
2. To compare the computer literacy levels of trainees from DMCTE and RKSDCE.
3. To identify gaps in computer literacy that may hinder the effective integration of ICT in teacher education.
4. To suggest implications for strengthening ICT components in teacher education programs in Manipur.

Hypotheses

- **H₀1:** There is no significant difference in the basic computer literacy levels between M.Ed. trainees of DMCTE and RKSDCE.
- **H₀2:** M.Ed. trainees do not demonstrate proficiency in basic computer literacy.

Methodology



- **Research Design:** Descriptive survey method.
- **Population and Sample:** The study population included all M.Ed. trainees in Manipur. A sample of 100 trainees (50 each from DMCTE and RKSDCE) was selected through convenience sampling.
- **Tool for Data Collection:** A structured questionnaire measuring frequency and proficiency in basic computer tasks (word processing, spreadsheets, presentations, internet browsing, email, and file management).
- **Procedure:** Data were collected in person and analyzed using descriptive (mean, percentage, SD) and inferential (t-test) statistics.
- **Delimitation:** The study was limited to the only two M.Ed. institutions of Manipur located in Imphal.

Findings and Discussion

1. Frequency of uses of computer applications

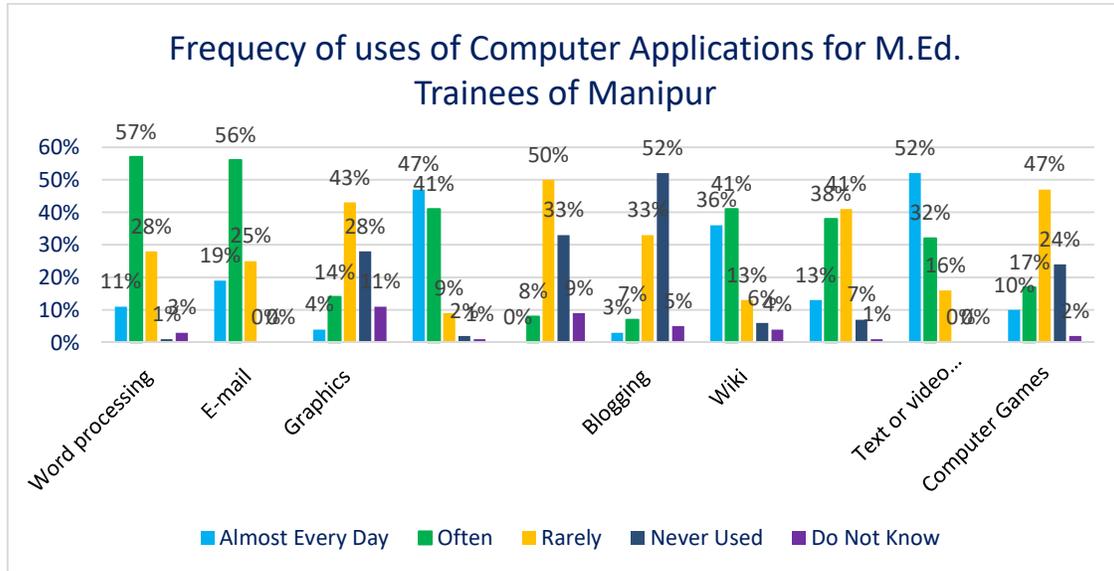


Figure 1: frequency of uses of computer applications for M.Ed. trainees of Manipur

The figure1 shows that –

Word processing: 11% of M.Ed. trainees uses word processing almost every day, 57% often, 28% rarely, 1% never used, and 3% do not know.



E-mail: 19% of the trainees uses almost every day, 56% often, 25% rarely, 0% never used, and 0% do not know.

Graphics: 4% of the M.Ed.-trainees uses graphics almost every day, 14% often, 43% rarely, 28% never used, and 11% do not know.

Multimedia: 47% of the M.Ed. trainees uses multimedia (audi0-video) almost every day, 41% often, 9% rarely, 2% never used, and 1% do not know.

Language Software: 0% of the M.Ed.-trainees of DMCTE uses language software (CD-ROM) almost every day, 8% often, 50% rarely, 33% never used, and 9% do not know.

Blogging: 3% of the M.Ed.-trainees uses blogging almost every day, 7% often, 33% rarely, 52% never used, and 5% do not know.

Wiki: 36% of the M.Ed.-trainees uses wiki almost every day, 41% often, 13% rarely, 6% never used, and 4% do not know.

Online discussion:13% of the M.Ed.-trainees uses online discussion almost every day, 38% often, 41% rarely, 7% never used, and 1% do not know.

Video chatting: 52% of the M.Ed. trainees uses text or video chatting almost every day, 32% often, 16% rarely, 0% never used, and 0% do not know.

Computer games: 10% of the M.Ed.-trainees uses computer games almost every day, 17% often, 47% rarely, 24% never used, and 2% do not know.

2. Proficiency in computer

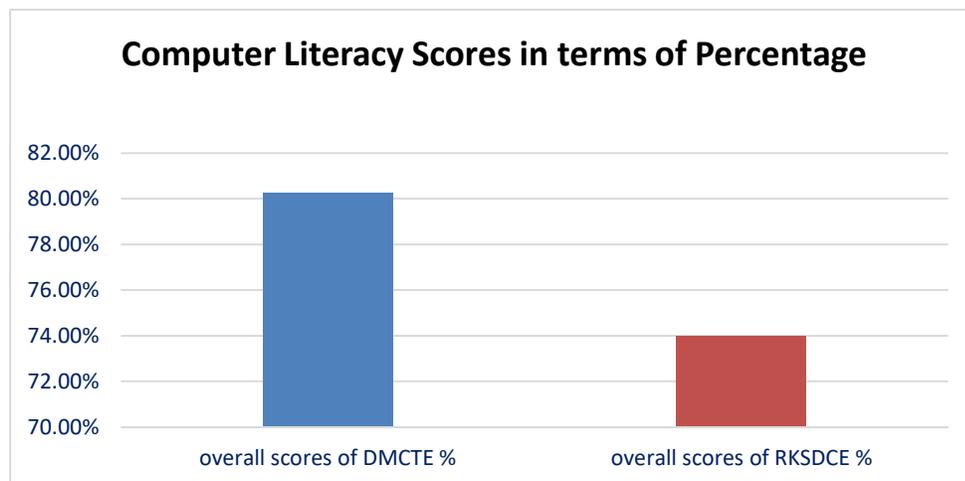


Figure2: computer literacy scores in terms of percentage

From the above figure2, it came to know that the percentage score of computer literacy test of DMCTE is 80.24% and the percentage score of computer literacy test of RKSDCE is 74%. It can be interpreted as DMCTE is more proficient in computer. Therefore, the null hypothesis - There is no M.Ed. college which is highly proficient in basic computer literacy skills is rejected as DMCTE is highly scored in computer literacy test. Hence, M.Ed. of DMCTE become the highest computer literate college of Manipur.

3. Level of computer literacy of M.Ed.-trainees

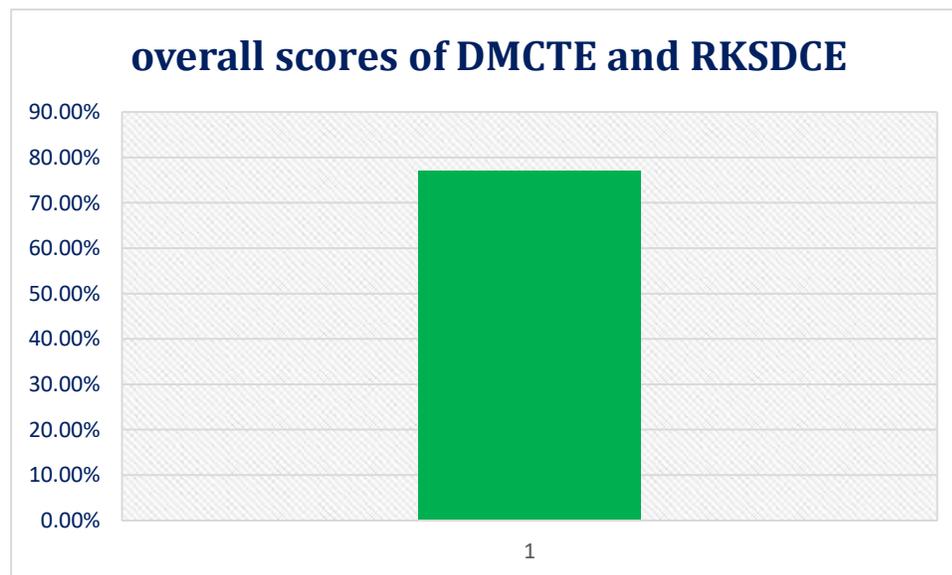


Figure 3: scores of computer literacy of M.Ed.-trainees

The figure3 shows the overall literacy in terms of percentage, the majority of M.Ed. trainees demonstrated satisfactory levels of basic computer literacy (77.12%). However still there is a gap of around 23% to reach 100% computer literate.

Institutional Comparison: DMCTE trainees scored slightly higher (80.24%) than RKSDCE (74%), though the difference was not statistically significant.

Skill Gaps: Proficiency was high in word processing, internet use, and PowerPoint presentations, while weaker in spreadsheets, statistical software, and integration of ICT into pedagogy.

Implications: The study underscores that while most trainees can perform basic tasks, many lack the depth of ICT skills necessary for advanced teaching and research practices. The findings also echo NEP 2020's call for strengthening ICT competencies in teacher training programs.



Educational Implications

- Teacher education curricula should integrate structured ICT training, moving beyond basic skills to include advanced pedagogical applications.
- Professional development workshops should be organized for both trainees and teacher educators to bridge digital gaps.
- State and institutional policymakers must improve infrastructural support to ensure equitable digital access across colleges.

Conclusion

The study concludes that M.Ed. trainees in Manipur exhibit satisfactory basic computer literacy, though gaps remain in advanced applications and ICT integration. Strengthening teacher education curricula with robust ICT components is essential to prepare future teacher educators who can effectively navigate digital classrooms. Such initiatives will not only enhance the professional competence of trainees but also improve the overall quality of education in Manipur in alignment with NEP 2020.

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