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AWARENESS AND CURRENT SITUATION AND PROBLEMS OF COMPUTER EDUCATION AMONG TEACHING TRAINEES BASED ON THE GENDER

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ABSTRACT

This research critically examines the awareness, current situation, and challenges of computer education among teaching trainees, focusing on its effectiveness in equipping future educators with essential digital skills. A well-structured computer education curriculum is crucial for preparing teaching trainees to integrate technology into modern classrooms, enhance instructional methodologies, and adapt to evolving educational technologies. The study investigates whether the existing computer education framework adequately prepares trainees for technology-driven teaching environments and identifies potential gaps in content, pedagogical approaches, and assessment strategies. Additionally, it explores the extent to which teaching trainees are aware of the latest advancements in educational technology and their ability to apply digital tools effectively. The first hypothesis (H_{01}) states that there is no significant difference in the awareness and challenges of computer education among teaching trainees based on gender. The findings will provide valuable insights into necessary curriculum reforms, ensuring that computer education remains relevant, comprehensive, and effective in fostering digital literacy and teaching competence among future educators.

Keywords: Awareness, Situation, Problem, Computer, Education, Trainer, Gender.

I. INTRODUCTION

The awareness, current situation, and challenges of computer education among teaching trainees are critical factors influencing their preparedness for modern classrooms. In today's digital era, where technology integration in education is no longer optional but essential, the effectiveness of teaching trainees in utilizing computer education significantly impacts their ability to engage students and enhance learning outcomes. Computer education plays a fundamental role in equipping future teachers with the necessary skills to leverage digital tools, online resources, and emerging technologies in instructional practices. However, disparities in access, knowledge levels, and institutional support often create barriers to its effective implementation. AS teacher trainees prepare to enter the education sector, their awareness and proficiency in computer education determine their capacity to adapt to evolving pedagogical methodologies. The integration of technology in teaching extends beyond basic computer literacy; it encompasses digital pedagogy, online assessment tools, interactive learning platforms, and subject-specific technological applications. The effectiveness of computer education among teaching trainees is crucial in ensuring that they can confidently navigate modern educational environments, design interactive lessons, and foster digital literacy among students.This literature review systematically explores the current state of computer education among teaching trainees, examining the extent of their awareness, the challenges they face, and the overall effectiveness of computer education programs in teacher training institutions. It delves into various dimensions, including the accessibility of computer education, the quality of training provided, and the readiness of trainees to integrate technology into their teaching practices. The review also highlights the role of institutional policies, infrastructure availability, and faculty support in shaping the digital competence of future educators

II. REVIEW OF LITERATURE

1. Shakya & Saint (2017)

This study examined computer awareness among 200 teacher trainees in Bilaspur, Chhattisgarh. Findings revealed no significant difference between science and arts trainees or between male and female trainees. However, urban trainees exhibited significantly better computer awareness than their rural counterparts. The study emphasized the need for digital literacy programs in rural teacher training institutes. It recommended integrating computer education into the curriculum to bridge the digital divide. The research highlighted that

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improved infrastructure, better internet access, and structured training programs could enhance computer literacy among teacher trainees, preparing them for modern classroom teaching methodologies.

2. Thakur (2014)

Thakur investigated ICT awareness among 300 trained teachers in West Bengal. The study found an overall poor level of ICT awareness, with no significant gender differences. However, urban teachers demonstrated significantly higher ICT awareness compared to rural teachers, mainly due to better exposure and resources. The study suggested that digital literacy training should be made mandatory for teacher trainees. It also emphasized that integrating ICT skills in preserve teacher education could improve teaching effectiveness. Additionally, Thakur recommended continuous professional development workshops for in-services teachers to keep up with evolving technology and enhance their digital competencies.

3. Bhatia (2011)

Bhatia assessed ICT awareness among M.Ed. trainees, highlighting the transformative role of technology in education. The study found that while most trainees recognized the importance of ICT, their practical skills were limited due to inadequate hands-on training. It emphasized the need for teacher educators to be proficient in ICT to enhance the teaching-learning process. The research concluded that teacher training programs should include practical computer-based teaching methodologies. It also recommended collaboration with educational technology companies to provide real-world training experiences, ensuring that future teachers can effectively integrate digital tools into classroom instruction.

4. Kumar & Singh (2020)

This study focused on teacher trainees in Bhopal, Madhya Pradesh, and found that while 90% were comfortable using computers, excessive ICT and internet usage led to medical, psychological, and socio-emotional problems for over 70% of trainees. The research highlighted the importance of digital well-being alongside computer literacy. It recommended balanced screen time and ergonomic learning environments in teacher training institutes. The study also emphasized the necessity of awareness programs on cyber safety, mental health implications of prolonged ICT exposure, and responsible digital citizenship among future educators.

5. Metra (1999)

Sugata Metra's "Hole in the Wall" experiment demonstrated that children could learn to use computers without formal training, highlighting the potential of minimally invasive education. His research found that self-learning through digital exposure significantly improved computer literacy among underprivileged students. The study influenced global perspectives on digital education and led to the development of self-organized learning environments (SOLEs). Metra recommended that teacher training should incorporate self-learning methodologies using digital tools, encouraging trainees to facilitate rather than direct students' learning. His findings continue to shape modern computer education strategies in India and beyond.

VARIABLES:-

Independent Variable- current situation and problems of computer education **Dependent Variable-** Student

III. POPULATION AND POPULATION

The entire group of individuals or items that the researcher is interested in studying and sample is a subset of the population that is selected for study, which is meant to represent the larger population.

Population: 60 Senior secondary school Students.

Sample:-Population sample 60 Senior secondary school students.(30 male 30 female).

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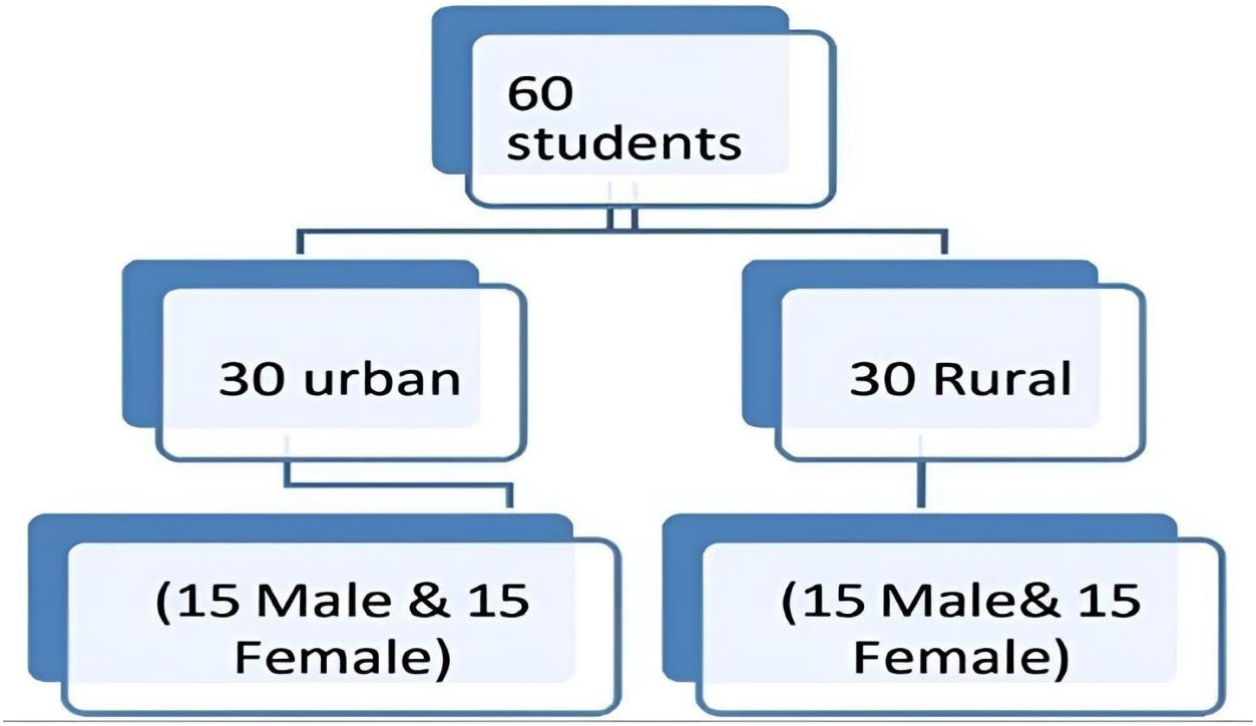

HYPOTHESIS :-

1. There is no significant difference in the awareness of computer education among teaching trainees based on gender.

Group	N	Mean	S.D.	Diff. Of Mean	t-Ratio	S. level	Result
Female	30	35.66	1.85	1.66	2.14	0.05	Hypothesis is Accepted
Male	30	34	2.84				

DEGREE OF FREEDOM=N1+N2

=(30+30)-2

=60-2

=58

SIGNIFICANT LEVEL OF 0.05= 2.048

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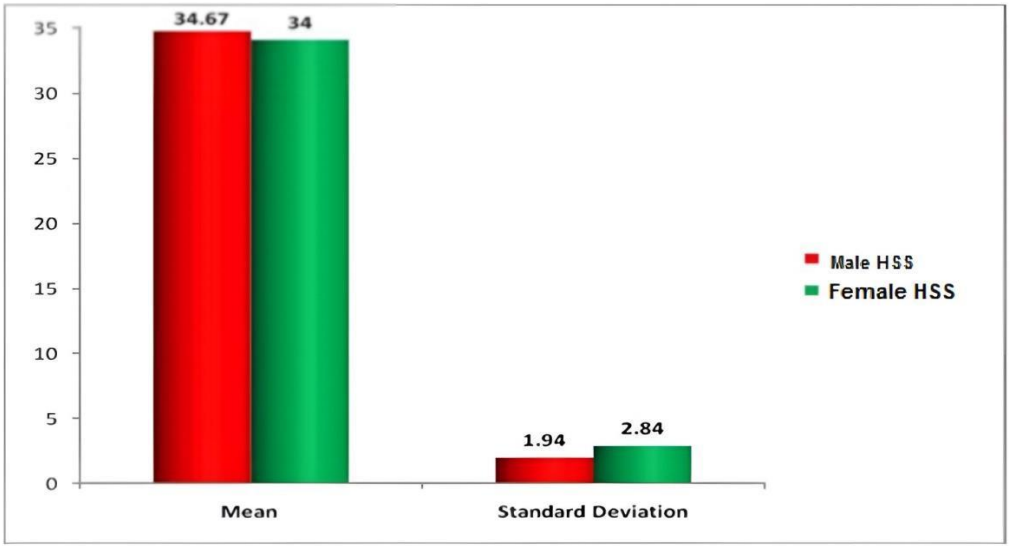
Graphical Presentation



IV. ANALYSIS INTERPRETATION

In above mentioned table mean score of 30 Female senior secondary level teachers is 35.66and 30 Male senior secondary level teachers have 34 mean respectively, whose difference is 1.66 and the standard deviation are 1.85 and 2.84 respectively for Female and Male senior secondary level teachers. Since the difference is 1.66 which is negligible.

DISUSSION:-After analyzing and describing each fact of above table where t=2.14 which is very less than significant level of 0.05 which is 2.048 That shows the null hypothesis is rejected.

Educational Implications –

Awareness and Current Situation and Problems of Computer Education Among Teaching Trainees

1. Curriculum Enhancement for Digital Literacy:

A critical study of computer education for teaching trainees can help identify gaps in digital literacy. Educational institutions should design a curriculum that ensures a strong foundation in both basic and advanced computing skills, covering essential topics such as programming, cybersecurity, and digital pedagogy.

2. Integration of Practical and Hands-on Learning:

The study may highlight the need for more practical exposure to computer applications. Teacher training programs should include hands-on sessions with educational software, learning management systems, and real-world applications to ensure that trainees gain practical experience in using technology for teaching and administration.

3. Alignment with Emerging Educational Technologies:

If the current curriculum does not align with the latest trends in educational technology, necessary modifications should be made. Teaching trainees should be introduced to artificial intelligence, virtual classrooms, digital assessment tools, and adaptive learning platforms to prepare them for modern teaching environments.

4. Updating Curriculum with Contemporary Developments:

Since technology evolves rapidly, outdated topics in computer education should be revised. Teacher education programs should regularly update their content to include advancements in cloud computing, data analytics in education, and interactive e-learning tools to keep trainees well-informed.

5. Interdisciplinary Approach in Computer Education:

The study may suggest the importance of integrating computer education with other teaching subjects such as mathematics, science, and humanities. Teaching trainees should be encouraged to use digital tools in lesson planning, classroom management, and interdisciplinary learning approaches.

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6. Use of Technology and Digital Resources in Teacher Training:

A critical analysis might reveal the necessity of incorporating e-learning platforms, online teaching simulations, and interactive modules in teacher training programs. Institutions should provide access to digital resources like MOOCs, webinars, and open-source teaching tools to enhance digital pedagogy skills.

7. Addressing Regional and Institutional Challenges:

The study may indicate disparities in access to technology and training infrastructure across different regions. Policymakers should work toward reducing the digital divide by ensuring equal access to computers, internet facilities, and digital literacy programs for all teaching trainees, especially in rural and underprivileged areas.

8. Assessment and Evaluation Reforms in Computer Education:

If the current evaluation system focuses more on theoretical knowledge rather than practical application, reforms should be introduced. Assessments should emphasize project-based learning, real-world problem-solving, and competency-based evaluations to measure trainees' ability to integrate technology into teaching.

9. Teacher Educator Training and Professional Development:

Effective computer education for teaching trainees requires well-trained faculty. Professional development programs should be designed to equip teacher educators with the latest technological skills, digital teaching methodologies, and strategies for integrating ICT (Information and Communication Technology) into teacher education.

10. Encouraging Research and Innovation in Educational Technology:

A well-structured teacher training curriculum should promote innovation in computer education. Teaching trainees should be encouraged to conduct research on technology-enhanced learning, participate in digital education projects, and engage with educational technology communities to stay updated with emerging trends.

V. CONCLUSION

A critical analysis of the current state of computer education among teaching trainees highlights the need for a dynamic and updated curriculum that integrates practical learning, emerging technologies, and digital pedagogy. Addressing these challenges will ensure that future educators are well-equipped to use technology effectively in classrooms, bridging the gap between traditional and modern teaching methods

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