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REVIEWER'S REPORT

Manuscript No.:   IJAR-56154

Title: Explaining and Enhancing Digital Literacy of MEd Students: A Multilayer Evidence Based Approach

Recommendation:

Accept as it is …………………………….

Accept after minor revision………………

Accept after major revision ………………

Do not accept (*Reasons below*) ………

Rating	Excel.	Good	Fair	Poor
Originality	…			
Techn. Quality	…			
Clarity		…		
Significance	…			

Reviewer Name: Dr. Ishrat Fatima

Detailed Reviewer's Report

The paper titled **"Explaining and Enhancing Digital Literacy of MEd Students: A Multilayer Evidence-Based Approach"** presents a comprehensive and theoretically grounded investigation into the digital literacy of Master of Education students. The study is well-structured and systematically organized, moving logically from conceptual foundations to empirical validation and practical implications. Its central contribution lies in conceptualizing digital literacy not as a narrow technical skill but as a multilayered professional competence consisting of technological proficiency, evidence-based analytical skills, and reflective decision-making. This layered framework adds depth to existing models and positions digital literacy within authentic teacher education practice rather than treating it as a generic competency.

The introduction effectively establishes the importance of digital literacy in contemporary teacher education, especially within the context of digital transformation in higher education. The authors clearly identify gaps in existing research, particularly the overreliance on self-reported measures and the limited focus on MEd students as a distinct group positioned between academic study and professional practice. The research objectives are explicitly stated and well-aligned with the overall design of the study. However, the introductory section could have been strengthened by incorporating more recent global literature, particularly studies emerging after rapid digital shifts in education over the past few years.

The literature review demonstrates strong conceptual grounding. It engages with foundational frameworks such as TPACK, DigCompEdu, and Gilster's definition of digital literacy, and it effectively traces the evolution of the concept from technical competence to a multidimensional construct that includes cognitive and reflective components. The review identifies important research gaps, particularly the lack of multi-layered assessment models and limited empirical attention to analytical reasoning and reflective decision-making in teacher education. While the theoretical base is solid, the number of cited empirical studies is somewhat limited, and the discussion could benefit from a broader range of contemporary research sources to further strengthen its scholarly depth.

Methodologically, the study is rigorous and well-designed. The mixed-methods approach is appropriate for examining a complex construct like digital literacy. The sample of 82 MEd students, drawn purposively from a research-intensive university, provides a reasonably diverse cohort across disciplines such as language, mathematics, science, and social sciences. The use of contextualized assignments, semi-structured interviews, and survey questionnaires reflects a thoughtful multi-layer evidence framework. Structural Equation Modeling (SEM) is employed effectively to test relationships among the three dimensions, and the reported model fit indices indicate a statistically sound model. Nevertheless, the paper could have included more detailed information regarding instrument reliability, inter-rater reliability for assignment scoring, and the specific design or duration of the intervention strategies to enhance transparency and replicability.

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The results section is clearly presented and integrates quantitative and qualitative findings effectively. Descriptive statistics indicate that technological proficiency scores were relatively high, while analytical skills showed greater variability. Reflective decision-making scores were moderate to strong but dependent on disciplinary background and prior teaching experience. The SEM findings are particularly significant, revealing strong predictive relationships among the three dimensions. Technological proficiency significantly predicts analytical skills, which in turn strongly predict reflective decision-making. This confirms the hierarchical yet interdependent structure proposed in the conceptual model. The qualitative findings from assignments and interviews further enrich the analysis by illustrating how high-performing students integrate digital tools with pedagogical reasoning, whereas lower-performing students often use technology mechanically without deeper reflection.

The discussion section successfully connects empirical findings to existing literature and theoretical frameworks. It reinforces the argument that digital literacy must be cultivated as an integrated competence rather than a collection of isolated technical skills. The authors provide practical implications for curriculum design, assessment reform, and targeted interventions in teacher education programs. Their emphasis on contextualized assessment and disciplinary tailoring is particularly valuable. The theoretical contributions are also clearly articulated, especially the validation of a multi-layer framework and the methodological integration of SEM with qualitative evidence. However, some sections of the discussion repeat earlier arguments and could be slightly more concise. The study acknowledges its limitations, including the relatively small sample size and single-institution context, which may limit generalizability. The authors appropriately recommend longitudinal research and replication across diverse contexts. This reflective acknowledgment enhances the credibility of the research.

Overall, the paper is a strong and meaningful contribution to the field of teacher education and digital literacy research. Its primary strength lies in its integrated, multi-layer conceptualization supported by empirical modeling and contextualized evidence. While minor improvements could be made in expanding the literature base and providing more methodological detail, the study successfully bridges theory, empirical research, and practical application. It offers a valuable framework for enhancing digital literacy among future educators and contributes significantly to ongoing discussions about preparing teachers for digitally mediated learning environments.