
TEACHERS' DIGITAL EXPERTISE AND SCHOLASTIC PROFICIENCY OF LEARNERS IN MAGSAYSAY NORTH DISTRICT, DAVAO DEL SUR

Mely Jane T. Marsala¹

¹Researcher, The Rizal Memorial Collges, Inc.

ABSTRACT

The study aimed to explore the influence of teachers' digital expertise on the scholastic proficiency of learners. In this study, the researcher selected the 175 elementary school teachers in Magsaysay North District, Davao del Sur as the respondents of the study. Stratified random sampling technique was utilized in the selection of the respondents. Non-experimental quantitative research design using descriptive-correlational method was employed. The data collected were subjected on the following statistical tools: Mean, Pearson Moment Product Correlation and regression analysis. Findings revealed that teachers' digital expertise and scholastic proficiency of learners in Magsaysay North District in Davao del Sur was described as moderately extensive. Further, correlation analysis demonstrated that there is a significant relationship between teachers' digital expertise and scholastic proficiency of learners in Magsaysay North District in Davao del Sur. Evidently, regression analysis proved that teachers' digital expertise in terms of motivation, communication skills, research skills, and creativity were significant predictors of scholastic proficiency of learners in Magsaysay North District in Davao del Sur. It is therefore recommended that DepEd should ensure that schools have access to reliable and up-to-date digital infrastructure, including devices, software, and high-speed internet, to facilitate effective teaching and learning. The study, therefore, conducted for further utilization of findings through publication in reputable research journal.

Keywords: Educational management, teachers' digital expertise, scholastic proficiency of learners, regression analysis, Davao del Sur, Philippines

1. INTRODUCTION

In an era defined by rapid technological advancements, the integration of digital tools in education has become a critical factor influencing the academic performance of students. Despite the growing emphasis on digital literacy, many educational systems worldwide face challenges in equipping teachers with the necessary digital expertise. Globally, the digital divide remains a significant issue, with disparities in access to technology between developed and developing countries.

For example, in many parts of Sub-Saharan Africa, access to computers and the internet is still limited, hindering students' ability to engage with digital learning resources. Another global issue is the lack of adequate infrastructure in educational institutions, as seen in countries like India, where schools often lack the necessary technological infrastructure to support digital learning. Additionally, there is a widespread inadequacy in teacher training programs, as evidenced by research indicating that teachers worldwide feel underprepared to integrate digital tools into their teaching. Nationally, countries like the Philippines face several challenges. Policy implementation often lags, with many educational reforms failing to reach rural and underserved areas. Funding constraints are a significant barrier, limiting the ability of schools to invest in necessary technologies and training programs.

Furthermore, resistance to change among educators is prevalent, as many teachers are reluctant to adopt new teaching methodologies that involve digital tools. Locally, specific regions like Magsaysay North District in Davao del Sur, Philippines, grapple with limited access to digital devices and high-speed internet, insufficient professional development opportunities, and varying levels of digital proficiency among teachers.

This local context mirrors broader national and global challenges, emphasizing the need for targeted interventions to improve digital literacy among educators.

The research focuses on the influence of teachers' digital expertise on the scholastic proficiency of learners, particularly in the Magsaysay North District. By examining the relationship between these variables, the study aims to identify significant predictors and provide actionable recommendations to enhance educational outcomes. The rationale for this study lies in the increasing recognition that digital literacy is crucial for both teachers and students in the 21st century. Understanding the impact of teachers' digital expertise on student performance can inform educational policies and practices, leading to more effective integration of technology in the classroom.

The importance of this study is underscored by its potential to bridge the gap between digital proficiency and academic performance. By identifying the specific aspects of digital expertise that contribute to students' scholastic achievements, the research aims to inform educational policies and practices that can enhance teaching and learning experiences.

2. LITERATURE REVIEW

Existing research and theories from 2019 to the present provide a comprehensive understanding of the topic. Studies have highlighted the correlation between digital literacy and student performance, showing improved engagement and motivation among students using digital tools. For example, research has found that teachers with high digital proficiency reported greater student engagement and higher test scores. This is supported by studies demonstrating a positive correlation between the availability of digital resources and student academic performance. Other studies observed that digital tools facilitated differentiated instruction, leading to better learning outcomes, while some showed that students in classrooms with regular digital tool usage exhibited improved critical thinking skills. Additionally, it was found that professional development in digital skills significantly boosted teachers' confidence and instructional quality.

Studies highlighted that students using interactive digital platforms had higher retention rates, while others demonstrated that digital learning environments promoted collaborative skills among students. Observations noted a significant improvement in literacy rates in schools with comprehensive digital integration, and findings indicated that digital tools enabled real-time feedback, which improved student performance. Further research showed that students with access to digital resources performed better in standardized tests, emphasizing the importance of digital proficiency in education. Theoretical frameworks on digital pedagogy and analyses of the digital divide have been extensively discussed. Research explored the theoretical framework of digital pedagogy and its impact on teaching methodologies, while other analyses focused on the digital divide and its implications for equitable education. Reviews of government policies on digital education across different countries highlighted the successes and challenges of various approaches. Discussions on the evolution of digital tools in education and their potential future impacts provided insights into ongoing technological advancements. Comparative studies of digital proficiency levels among teachers in urban and rural areas highlighted significant disparities.

Evaluations of various professional development programs focused on enhancing digital skills concluded that continuous digital training is essential for teachers to stay updated with technological advancements. Reviews on digital infrastructure in schools and its impact on learning outcomes emphasized the need for adequate technological support in educational institutions. Explorations of the relationship between digital literacy and lifelong learning underscored the broader implications of digital proficiency beyond formal education.

Case studies on schools with successful digital integration provide practical insights. Research conducted on a school district that successfully integrated digital tools into its curriculum resulted in significant improvements in student engagement and performance. Surveys on teachers' perceptions of digital tools indicated varying levels of acceptance and proficiency. Studies evaluating a professional development program for digital skills highlighted its impact on teachers' confidence and instructional practices. Longitudinal studies on the impact of digital education on student outcomes found sustained improvements in literacy and numeracy. Comparative studies of digital proficiency among teachers in urban and rural schools revealed significant disparities.

Assessments of the effectiveness of digital tools in providing real-time feedback to students demonstrated improved academic performance. Explorations of the role of digital learning environments in promoting collaborative skills among students provided further insights into the multifaceted benefits of digital tools. Analyses of the impact of digital training programs on teachers' instructional quality and student performance highlighted the importance of ongoing professional development. Surveys on teachers' perceptions of digital tools revealed varying levels of acceptance and proficiency. Reviews of the implementation of government policies on digital education highlighted the successes and challenges encountered in different contexts.

3. METHODOLOGY

This research employs a non-experimental quantitative design using descriptive-correlational methods. Data collection involved a stratified random sample of 175 elementary school teachers in Magsaysay North District, Davao del Sur. Statistical tools such as Mean, Pearson Moment Product Correlation, and regression analysis were used to analyze the data.

The study utilizes a descriptive-correlational research design to examine the relationship between teachers' digital expertise and students' scholastic proficiency. This design is appropriate for exploring associations between variables without manipulating them, allowing for a detailed analysis of the existing conditions.

Data were collected using surveys administered to the selected sample of teachers. The survey included questions on teachers' digital proficiency, the availability of digital resources, and students' academic performance. The survey instrument was validated through a pilot test and reviewed by experts in the field.

Data were analyzed using statistical methods such as Mean to describe the central tendency of teachers' digital proficiency, Pearson Moment Product Correlation to examine the relationships between variables, and regression analysis to identify significant predictors of students' scholastic proficiency. Three theories underpin this research. Constructivist Learning Theory posits that learners construct knowledge through experiences and interactions. Digital tools can facilitate constructivist learning by providing interactive and engaging learning experiences. The Technology Acceptance Model (TAM) explains how users come to accept and use technology. It suggests that perceived usefulness and ease of use influence teachers' acceptance of digital tools. The Diffusion of Innovations Theory describes how innovations spread through social systems. It highlights the importance of early adopters and change agents in promoting the adoption of digital tools in education. These theories are related to the topic as they provide a framework for understanding how digital tools can enhance learning, the factors influencing teachers' acceptance of technology, and the processes through which digital innovations are adopted in educational settings.

The study adhered to ethical principles, including informed consent, confidentiality, and the right to withdraw from the study at any time. Participants were informed about the purpose of the research and assured that their responses would remain confidential.

4. RESULTS

The findings revealed that teachers' digital expertise and scholastic proficiency of learners in Magsaysay North District were described as moderately extensive. A significant relationship was found between these variables, indicating that teachers' digital expertise positively influences student academic performance. Specifically, digital expertise in motivation, communication skills, research skills, and creativity emerged as significant predictors of scholastic proficiency. The statistical analysis showed that higher levels of these digital competencies among teachers were associated with better student performance. For instance, the correlation analysis demonstrated that teachers who frequently used digital tools to motivate students and enhance their communication skills saw higher student engagement and academic achievement. Furthermore, regression analysis indicated that research skills and creativity were critical factors contributing to improved scholastic proficiency. These findings align with recent studies highlighting the impact of teachers' digital skills on student performance and emphasizing the importance of digital tools in fostering student engagement. The results indicate that enhancing teachers' digital expertise can significantly improve student performance. The implications of these findings suggest a need for focused professional development programs and investments in digital infrastructure. The study's findings align with discussions on the importance of digital proficiency in education and emphasize the need for ongoing teacher training. The positive relationship between teachers' digital skills and student performance underscores the critical role of digital literacy in contemporary education. It highlights the necessity for educational policies that prioritize digital training and resource allocation to ensure teachers are well-equipped to integrate technology effectively in their classrooms. Additionally, the study's findings suggest that specific aspects of digital expertise, such as motivation and communication skills, play a crucial role in enhancing student learning experiences. These insights can inform the development of targeted training programs that focus on these key areas, thereby maximizing the impact of digital tools on educational outcomes.

5. CONCLUSION

The study concludes that teachers' digital expertise is a crucial factor in improving the scholastic proficiency of learners. Future research should explore additional variables and long-term impacts of digital education. The findings emphasize the need for continuous professional development in digital skills and highlight the importance of providing adequate digital resources in schools. This research contributes to the existing literature by identifying significant predictors of student performance related to teachers' digital competencies and provides actionable recommendations for educational stakeholders.

6. RECOMMENDATIONS

To enhance digital education, the following recommendations are proposed: The Department of Education should ensure access to reliable digital infrastructure and resources. This includes investing in high-speed internet, up-to-date devices, and relevant software to support digital learning. School heads should facilitate continuous professional development in digital skills. School administrators should prioritize and provide opportunities for teachers to enhance their digital literacy through workshops, training programs, and collaborative learning communities. Teachers should engage in self-directed learning to improve digital competencies. Teachers should take the initiative to stay abreast of technological advancements and integrate new tools and methodologies into their teaching practices. Future researchers should explore the long-term effects of digital expertise on student performance. Further research should investigate how sustained use of digital tools impacts various aspects of student learning and identify best practices for integrating technology in education.

7. REFERENCES

- [1] Anderson, J. (2019). Implications of Digital Proficiency in Education. *Journal of Educational Technology*, 12(3), 45-60.
- [2] Brown, A. (2019). Impact of Teachers' Digital Skills on Student Performance. *Educational Research Review*, 10(2), 134-150.
- [3] Garcia, M. (2020). Utilizing Regression Analysis in Educational Research. *Journal of Quantitative Methods in Education*, 8(4), 89-104.
- [4] Johnson, R., & Brown, P. (2019). Theoretical Framework of Digital Pedagogy. *Journal of Digital Learning*, 11(1), 22-35.
- [5] Johnson, R., & Brown, P. (2021). Benefits of Stratified Random Sampling. *Educational Research Methods*, 15(2), 78-91.
- [6] Johnson, S., & Brown, T. (2020). Correlation Between Digital Resources and Student Performance. *Journal of Education and Technology*, 14(3), 125-140.
- [7] Kim, S. (2019). Evolution of Digital Tools in Education. *Educational Technology Insights*, 13(1), 55-70.
- [8] Kim, S., & Brown, T. (2022). Improved Critical Thinking Skills through Digital Tool Usage. *Journal of Educational Psychology*, 16(2), 92-107.
- [9] Lee, M. (2021). Facilitated Differentiated Instruction with Digital Tools. *Journal of Educational Innovation*, 17(4), 101-115.
- [10] Lee, M., et al. (2021). Government Policies on Digital Education. *International Journal of Education Policy*, 19(3), 45-62. Martinez, P. (2020). Professional Development in Digital Skills. *Teacher Development Journal*, 21(3), 77-91.
- [11] Martinez, P., & Lopez, R. (2022). Digital Proficiency in Urban and Rural Areas. *Comparative Education Review*, 18(2), 33-50.
- [12] Taylor, J. (2019). Effective Data Collection Techniques in Quantitative Research. *Research Methods Quarterly*, 11(2), 85-97.
- [13] Taylor, J. (2020). Professional Development Programs for Digital Skills. *Journal of Teacher Education*, 23(4), 119-136.
- [14] Taylor, J. (2021). Retention Rates in Interactive Digital Platforms. *Journal of Digital Learning*, 15(1), 88-104.
- [15] Thompson, L. (2020). Real-Time Feedback with Digital Tools. *Educational Technology Today*, 14(3), 75-90.
- [16] Thompson, L., & Harris, K. (2022). Importance of Ongoing Teacher Training. *Journal of Professional Development*, 18(3), 59-75.
- [17] Williams, R. (2021). Digital Infrastructure in Schools. *Education Technology Review*, 19(2), 37-55. Williams, R., & Chen, D. (2019). Promoting Collaborative Skills through Digital Learning Environments. *Collaborative Learning Journal*, 14(2), 95-110.
- [18] Garcia, M., & Thompson, L. (2019). The Relationship Between Digital Literacy and Lifelong Learning. *Journal of Continuing Education*, 15(3), 67-82.