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ASSESSING THE USE OF ARTIFICIAL INTELLIGENCE IN FOSTERING DIGITAL LITERACY: INPUTS FOR POLICY DEVELOPMENT

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ABSTRACT
Artificial intelligence (AI) is a dominating innovative and technological tool in the digital civilization. This study assessed the use of artificial intelligence in fostering digital literacy in the teaching and learning process among selected public school in the Philippines. Descriptive correlational research design was used. It was participated by 300 randomly selected public secondary school teachers among selected public schools. Results showed that learners' digital literacy was highly apparent through information literacy. In addition, the study also found out that role of artificial intelligence was highly evident specifically on aiding learners' personalized learning experiences. Conclusively, the study found out that there was a strong positive relationship between the assessed learners' digital literacy as to information literacy and the assessed role of artificial intelligence as to personalized learning. Lastly, inputs for localized policy development was introduced including cross-disciplinary input, creation of localized policy guidelines and building an effective artificial intelligence environment.

Keywords:
Artificial intelligence, digital literacy, information literacy, personalized learning, policy

INTRODUCTION

Artificial Intelligence is an innovative digital tool that has transformed various sectors including education and digital literacy. Artificial Intelligence is widely used in educational landscape. Teachers and learners extend the use of Artificial Intelligence in their academic and non-academic works. In the Philippine educational settings, artificial intelligence as an innovative tool becomes a core of educational controversy whereas from the perspectives of others who deemed view that artificial intelligence causes learning acquisition process as ineffective. In other words, from the general perceptions of other professional and education practitioners, artificial intelligence may be contributory to the serious decline of quality of learning because learners are no longer extracting and applying higher order thinking skills in any of their academic endeavor.

In another view, for education practitioners and professionals who favored the use of artificial intelligence, they find that artificial intelligence is a product of innovative minds that help teachers and learners create more functional, realistic and technology-ready teaching and learning process. It may be deduced that artificial intelligence becomes a serious concern in the field of education. Meanwhile, artificial intelligence is a realistic and concrete manifestation of a digitalized civilization where digital revolution becomes a norm in today's generation. Digital literacy in this regard, is the ability of individuals to effectively use digital tools and technologies to access, evaluate, create and communicate information. This commonly encompasses information literacy, communication skill and technical skills. In a nutshell, digital literacy is confined among the basic skills and competence in using digital products confidently, safely and effectively. As to the context of education, digital literacy means the competence and skills of learners in using, applying and transferring learned concepts relative to digitalization. A determining test whether learners applied such learnings effectively, is their consistent and efficient use of digital tools to aid and support their meaningful acquisition of learning.

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The context and nature of artificial intelligence become the substantial considerations for educators, practitioners and other professionals who are concerned in the proper and effective delivery of education. Artificial intelligence is dominantly used in every affair of individual whether for academic and non-academic undertakings. It is a vital digital support tool for teachers who comprehensively generate, collect and process data as well as an effective aid in the conceptual design of pedagogical instruction (Ortiz Jr. et al., 2025). Further, artificial intelligence as perceived by teachers, is a useful and directly beneficial to facilitate effective and retentive instruction, effectively provides relevant and highly diversified instructional methods and strategies which teachers can use in order to cater learners' individual needs and interests (Dela Cruz et al., 2025). In addition, central focus on the exploration of learners' learning development is the necessity of understanding different artificial intelligence platforms as an essential component of digital literacy (Bender, 2024). Most common powerful predictor of usefulness and ease of use of artificial intelligence is the ability to use artificial technology. It implies that for learners, the ability to utilize such various tools based on artificial technology in an essential competency in the artificial intelligence era (Hwang et al., 2023). Practical strategies are centered on artificial intelligence tools, enhancing institutional trust through transparent governance, leveraging support, providing structured training and technical assistance and advancing policy-leveraging initiatives to guide learners for effective digital transformation (Zuo et al., 2025).

The researchers examined that most of the published researchers are purely concentrated on the description and analysis on the potential implications of artificial intelligence to learners learning processes and teachers' teaching competence. This established a strong research gap where the researchers observed that most of the teachers are consistently using artificial intelligence in their preparation, design and actual teaching processes. The researchers also observed that policies and definite rules are silent with regard to the use of artificial intelligence in the teaching and learning process. So, this study assessed the use of artificial intelligence in fostering digital literacy in the teaching and learning process among selected public school in the Philippines.

RESEARCH PROBLEM

This study assessed the use of artificial intelligence in fostering digital literacy in the teaching and learning process among selected public school in the Philippines. Specifically, it answered the following questions:

1. How may digital literacy of learners be assessed by teachers as to:
   1.1 information literacy;
   1.2 communication skills;
   1.3 technical skills?
2. How may the role of artificial intelligence assess as to:
   2.1 personalized learning;
   2.2 content creation;
   2.3 information sources?
3. Is there a significant relationship between the assessed digital literacy of learners and the assessed role of artificial intelligence?
4. Based from the findings, what inputs for policy development may be proposed in order to strengthen the use of artificial intelligence to foster digital literacy?

Hypothesis

The study hypothesized that:

Ho_1: There is no significant relationship between the assessed digital literacy of learners and the assessed role of artificial intelligence.

Significance of the Study

The study is of great importance as the results and findings the study may provide a logical data in formulating relevant policies so as to ensure the proper use of artificial intelligence to foster digital literacy. Also, the study is beneficial for private and public basic education institutions, as it may provide empirical evidences for the formulation of strategic programs to help them advance the effective and efficient implementation of artificial intelligence for fostering digital literacy. Meanwhile, results of the study may also be beneficial for the community as it may provide insightful meanings to enable them understand and appreciate the positive implication of artificial intelligence in fostering digital literacy.

METHODOLOGY

This study employed a descriptive correlational research design whereas it was participated by 300 randomly selected public secondary school teachers among selected public schools in the Philippines. The researchers

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used developed survey-questionnaire. Before the actual data gathering procedure, the researchers sought the guidance of experts specifically professionals who hold Doctorate Degree in Administration and Supervision, to validate the developed survey-questionnaire. The same obtained "Excellent" remarks signifying that the developed survey-questionnaire are parallel to the research objectives. Further, the researchers carefully selected the participants through a call for participation which was posted on a certain research community platforms. When participants expressed their interests to participate in the study, the researchers reached them through their personal social media accounts. Thus, short orientation was made in order to discuss the context, scope and parameters of the study. Then a formal letter of request was sent to the participants. In addition, the researchers used 4-Likert Scale. Then, it was subjected to internal consistency measure which obtained a Cronbach Alpha result of .817 for items under teachers' assessment on digital literacy while a Cronbach Alpha result of .912 was obtained for items under the role of artificial intelligence.

Thereafter, the researchers provided them a Google Form link which was sent to their personal social media accounts. This technological platform served as a mean to gather their responses. Then, the researchers proceeded with the actual data collection. The researchers allocated 10-15 minutes to fill the survey-questionnaire contained in the Google Form link. Thereafter, the researchers downloaded the responses of the respondents and prepare the same for further statistical computation. Apparently, the researchers used descriptive and inferential statistics. Specifically, to answer research problems 1 and 2, they used mean, standard deviation and general weighted mean. Thus, Pearson R was used in order to examine if there would be a significant relationship between the assessed digital literacy of learners and the assessed role of artificial intelligence.

RESULTS AND DISCUSSION

Artificial intelligence is an innovative digital tool designed to help individuals including teachers and learners to gather, collect and synthesize information and inputs relative to academic and non-academic topics. Apparently, artificial intelligence is widely used as an academic support where they use it in order to gather and create academic tasks under a short span of time. The integration of artificial intelligence in digital literacy actions and initiatives, curriculum and other educational undertaking, create effective, engaging and inclusive learning experiences. The continuous application and use of artificial intelligence capabilities across digital world, individuals including teachers and learners are given opportunities to freely navigate information under short span of time, without a need of actual and physical exposure to realities.

1. **Assessed Digital Literacy**. The results showed that teachers assessed their learners digital literacy. Information literacy obtained the highest mean of 3.56, described as highly evident. On the other hand, technical skills gained the second highest mean of 3.42, described as highly evident while communication skills obtained the lowest mean 3.19, described as evident. An overall mean of 3.39, described as highly evident suggests that while learners exhibit robust information and technical skills, there is likewise a notable need for developing their communication skills. On the results as to information literacy showed that learners possess strong skills in information literacy including the ability to locate, evaluate and use information effectively. Accordingly, the results also showed that it was critical to consider the information literacy aspect as one of the core component of digital literacy. On the other hand, the results on technical skills revealed that learners are proficient in using various digital tools and technologies. This also indicated that they are comfortable with basic technical operations such as using software, modern application, internet and other digital application. Learners' proficiency in technical skills are extracted to be very vital in their development under the digital era. Lastly, on communication skills, it signified that learners may often face different communicative challenges in terms of verbal and non-verbal communication aspects because they are commonly challenged on the proper ways of expressing their ideas, thoughts, emotions and feelings, even if they use different digital platforms or digital devices. The results of the study supported the study of Audrin and Audrin (2022) which discussed that the development of learners' digital literacy connote digital learning using information literacy and 21st century digital skills for higher level and retentive learning experiences. The study implicated that teachers and learners should jointly create impactful instructional designs that could help them elevate their competence in digital learning, literacy and 21st century skills.

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2. **Role of Artificial Intelligence**. Teachers assessed the role of artificial intelligence in the teaching and learning process in fostering digital literacy. The results showed that personalized learning obtained the highest mean of 3.78, described as highly evident. Further, the results revealed that content creation information sources gained the second highest mean of 3.71, described as highly evident. Also, content creation variable obtained the lowest mean of 3.33, described as highly evident. An overall mean of 3.60, described as highly evident. The results indicated that teachers strongly assessed the effectiveness of artificial intelligence in facilitating personalized learning experiences of individual learners. Apparently, the results also showed that artificial intelligence tools are responsive to the learners' needs, interests, preferences and learning acquisition techniques. In this regard, it revealed that personalized learning is crucial for developing learners' digital literacy. On the other hand, the results further signified that artificial intelligence played a significant role in enhancing the availability and quality of content creation information sources. Thus, artificial intelligence can help curate and recommend sources that are useful for learners' academic or non-academic tasks. Lastly, the results signified that teachers recognized the importance of artificial intelligence in assisting with content creation even if there are aspects that needed to vitally consider for purposes of relevance, responsiveness and authenticity. The results supported the study of Mhlanga (2023) which concluded that artificial intelligence had progressively wider impact on many sectors which required an assessment of its effect on the achievement of the Sustainable Development Goals. Thus, similar study showed that artificial intelligence needs to be supported by necessary regulatory insight.

3. **Relationship Between the Assessed Digital Literacy of Learners And The Assessed Role of Artificial Intelligence.** The results showed that there was a strong positive correlation between the assessed digital literacy of learners as to information literacy and the role of artificial intelligence as to personalized learning (p-value= .011, r=.654). The correlation coefficient indicated a strong positive relationship in the assessed digital literacy of learners in information literacy and the assessed roles of artificial intelligence in facilitating personalized literacy. This further suggested that as learners' information literacy develops, their engagement with effective artificial intelligence tools also increases, supporting their personalized learning experiences. The results of the study supported the study of Gani et al. (2025) which concluded that artificial intelligence had a more dominant influence on digital literacy. Similar study focused that effective utilization of artificial intelligence to fostering digital literacy had become more apparent in the teaching and learning landscape. On the other hand, study implicated that learners with strong information literacy skills should be better equipped with artificial intelligence tools, allowing them to explore and eventually, use personalized learning on their academic advancement and success. And, there should be localized school policies that should be crafted for better and consistent use of artificial intelligence across domains of digital literacy in the 21st century teaching and learning process.

4. **Inputs for Policy Developmen**t. Schools should craft and align the use of artificial intelligence tools in the dispensation of effective teaching and learning process considering digital literacy domains. The following should be considered as inputs: (1) cross-disciplinary input where teachers and the school community are encouraged to integrate digital literacy by using artificial intelligence responsibly, (2) creation of localized guidelines where school heads, teachers and stakeholders should develop clear and definite standards in the utilization of artificial intelligence in the teaching and learning process, (3) build artificial intelligence literacy environment where all stakeholders should create programs and projects allowing the discussion and implementations of artificial intelligence in the schools with corresponding standards of use and practice for assessment.

CONLUSION

The 21st century teaching and learning process involves the formulation, development and consistent assessment of the learners' digital literacy skills and competence as substantial core for their academic success in the digital educational settings. It was highly evident that learners' digital literacy was highly apparent through information literacy. In addition, the study also found out that role of artificial intelligence was highly evident specifically on aiding learners' personalized learning experiences. Conclusively, the study found out that there was a strong

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positive relationship between the assessed learners' digital literacy as to information literacy and the assessed role of artificial intelligence as to personalized learning. Lastly, inputs for localized policy development was introduced including cross-disciplinary input, creation of localized policy guidelines and building an effective artificial intelligence environment.

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