Teachers' Digital Competence and Learner Engagement: A Descriptive-Correlational Study

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ABSTRACT: The study aimed to determine the levels teachers' digital competence and learners' engagement; and relationship between teachers' digital competence and learners' engagement as perceived by 184 teachers in public elementary schools of Maragusan West District, Davao De Oro, Philippines, using quantitative non-experimental, descriptive-correlational research design. The results showed a high level of teachers' digital competence in terms of professional engagement, digital resources, teaching and learning, assessment, empowering learners and facilitating learners' digital competence. Also, a high level of learners' engagement in terms of cognitive engagement, affective engagement and behavioral engagement. Moreover, the findings displayed that there was a significant relationship between the teachers' digital competence and learners' engagement in public elementary schools. Findings of the study could be an important baseline for planning and crafting policies and activities that will maintain or even improve the high level of teachers' digital competence and learners' engagement with their domains to promote more productive classrooms and increase learning outcomes.

KEYWORDS: education, teachers' digital competence, learners' engagement, public schools. descriptive-correlational research, Philippines.

I. INTRODUCTION

The Problem and Its Background : Students' engagement in the classroom is necessary for the students to succeed in school. Many are not motivated to participate in classroom discussions, which hinders them from performing better in their academics. According to Bergdahl et al. (2020), students lack the motivation and participation that cause them to have low academic performance. Further, Lawson and Lawson (2020) assumed that when students' interests conflict with the curriculum, school support and classroom dynamics are insufficient, then the probability of disengagement took place. The problem necessitates the requirement of including more engaging teaching and learning approaches to not lose the pupils' engagement. Nhat Thai (2022) in Ho Chi Minh City, Vietnam conducted a study which revealed that cognitive engagement is influenced by teacher relatedness and digital competence; emotional engagement is impacted by digital competence only, and behavioral engagement is significantly affected by teacher relatedness and digital autonomy. These findings suggest useful managerial implications to improve student engagement. Further, findings revealed in the study of Clarin (2021) in Ozamiz City, Philippines that the students have a high level of engagement in online distance learning and teachers have very satisfactory teaching competence. The implementation of online distance learning is effective. A difference in the teachers' and students' perceptions on the level of engagement of students in online distance learning is in terms of interaction with the teachers. The students' level of engagement in terms of community support and the level of effectiveness of online distance learning and the teachers' teaching competence influenced the effectiveness of the implementation of online distance learning in terms of active learning, prompt feedback, high expectations, and diverse talents and ways of learning. Teachers' teaching competence greatly affects the effectiveness of the implementation.

In the observation made by the researcher as she is also using technology in her teaching that students are very much engaged and motivated. They are interested in listening and participating during the teaching and learning process. At present it is undeniable that students can only conceptualize the topics once they can see something especially in the use of digital applications like power point presentations videos, games, and other activities using technology. Teachers should be more literate and competent in the use of digitization in teaching. With this situation, the researcher is motivated to determine if the teachers' digital competence has something to do with the learners' engagement. As technology is always changing, with which an educator has to evolve together and not only possess effective robustness in digital competences but implement them in his educational practice to help boost active learning among his students while preparing them to learn the world that exists under highly digitalized technological means of communication. The key for teachers to negotiate their educational environment today is to develop digital competencies. As claimed by Boronenko et al., teachers must acquire digital competencies to help the learners gain their own expertise in digital.

Moreover, Siddiq et al. (2016) emphasizes that the importance of teachers' focus on the development of students' digital information and communication skills is a must to make educational practices respond to the requirements of the 21st century. This is not only necessary for increasing student engagement but also for ensuring that learners gain the skills required to succeed in a digital world.

Review of Related Literature and Studies : For sufficient backgrounds to the study, a myriad of relevant information, concerns, perspectives, and issues of different authors are given. For a comprehensive framework of evaluation, careful information and opinions from authoritative people are integrated.

Teachers' Digital Competence. The independent variable of this study is the pupils' digital competence. The concept of teachers' digital competence has attracted attention lately, mainly due to its crucial role in today's education. Basilotta-Gómez-Pablos et al. (2022) conducted a systematic review that noted, although many teachers have the basis digital competencies, there is an urgent need for continuous professional development in specific areas, such as digital assessment and including information technology in the teaching process. Additionally, Jiang and Yu (2024) discuss the evolving nature of digital competence, which now encompasses activities such as assessing and selecting digital resources, engaging in digital teaching practices, and facilitating students' use of digital technologies. These studies collectively underscore the importance of a holistic approach to developing digital competence among educators to enhance teaching and learning outcomes in the digital age.

According to Wong and Liem (2021), it is a multifaceted construct that affects academic achievement, school completion rates, and well-being. Similarly, as emphasized by the National Survey of Student Engagement 2020 report, an even greater necessity comes to the surface to comprehend and further student engagement for better educational outcomes in making effective learning a requirement (University of Toronto, 2020). These premises require further evidence and interventions to fulfill the insatiable incessant factors dealing with the needs of contemporary students. The digital competence of the teachers refers to the teacher's ability to use technology effectively in educational practice, and it is a multidimensional construct. While this kind of competence is gaining recognition as vital for enhancing teaching and learning in the 21st century, there are factors that influence the digital competence of the teachers, including the kind of training, attitude, and environment within which they work. The level of teachers' digital competence is low to moderate, Basilotta-Gómez-Pablos, Matarranz, Casado-Aranda and Otto (2022). While Althubyani (2024) found moderate level of teachers' digital competence.

Lack of training and professional development for teachers is one of the major barriers to the proper integration of technology in education. Similarly, Adhikari views that two main issues the teachers in Nepal must face are: inadequate ICT infrastructure and inappropriate training. These cause failure of technology implementation in the classes of teachers (Adhikari, 2021). Additional studies based on the argument of professional development for the improvement of self-confidence and competencies of teachers with respect to the use of technology are necessity (Bowman et al., 2020).While discussing a comprehensive framework for teaching digital competence, Falloon (2020) emphasizes a holistic approach beyond basic technical competencies to pedagogical and ethical dimensions as well. Similar lines, Jogezai et al. (2023) "Exploring the implications of digital nativeness and digital leadership for how teachers use technology effectively in tasks of instruction.

The role of teachers' digital competencies in facilitating engagement cannot be underestimated, especially within modern technology-driven classrooms. Teachers with high digital competencies can better integrate technology into their teaching practices and have a better impact on pupils' engagement and learning performance (Falloon, 2020). Similarly, Bergdahl, (2020) pointed out the fact that teachers' ability to deploy digital tools meaningfully and pedagogically influences massively the degree of students' motivation and participation in class activities. These studies indicate that there needs to be ongoing professional development so that the teachers become better facilitated with digital technologies to foster an engaging and interactive learning environment.Recent works on the digital competence of teachers in rural schools have sounded the gong on various challenges and opportunities presented to teaching practitioners. Guillén-Gámez et al. (2023) explored the digital competence of primary education teachers, which showed that generalist teachers generally possess much higher digital skills compared to specialism peers, with gender and teaching specialty significantly affecting digital communication with education stakeholders. Other than that, Revuelta-Domínguez, et al. (2022) incorporates a systematic review of digital teaching competence that narrates the dimensions and models of assessment constructed for the measurement and enhancement of teachers' digital competencies. In general, these studies advance the call for specific professional development and support in improving the digital competence of rural teachers.

Another important factor in teachers' practices of integration is the attitude of teachers toward technology. Positive attitudes of teachers toward technology enhance its integration into teaching (Önalan & Kurt, (2020). To deliver high-quality educational experiences, teachers must get ongoing training and updates. One of the abilities that educators need to have to enhance the teaching and learning process is digital competency. The ATLAS.ti program was used to perform the comprehensive analysis of the documents. VOSviewer was used to examine the co-occurrence of terms. The primary findings indicate that scientific output is rising, and the majority of research focuses on examining teachers' often low levels of digital competency. Teachers in secondary education make up the majority of the study samples. The necessity of creating training programs to enhance teachers' digital competency and conducting additional research in this area is highlighted in the review's conclusion (Graván et al., 2025).

The impact of resource availability and technology attitude on the digital competency of learning-serving teachers at Valencia National High School, Schools Division of Valencia City, was investigated in a study carried out in the second quarter of the 2024–2025 academic year. Digital competency and technological mentality were positively correlated, especially in terms of attitudes toward technology and innovation readiness. Training accessibility and institutional support are important indicators of digital competency. For long-serving teachers to improve their digital abilities, the study found that training, resource accessibility, and proactive technological mentality are essential (Dioquino & Paglinawan, 2024). One of the biggest issues facing teachers is digital training. Several training events have been conducted within the DigCompEdu framework, which has gained popularity in non-university education in recent years. According to the review's findings, pupils' proficiency in all areas is mediocre, particularly when it comes to improving their digital competency. However, among other things that the included studies demonstrate, experience and prior ICT training stand out as potential predictors of teachers' digital competency (Cid-Martínez et al., 2025).

The teaching and learning processes have been completely transformed by digital innovation in education, necessitating a reconsideration of educators' pedagogical competency. This study assesses how well-prepared teachers are to use digital technologies into their lesson plans. According to the findings, issues including inadequate professional development and change resistance persist even though many instructors recognize the advantages of digital tools. The study highlights the need for targeted training programs and supportive institutional policies to enhance digital pedagogical preparation (Yulin & Danso, 2025). The first domain of teachers' digital competence is professional engagement. Fernández-Batanero et al. (2020) highlight that continuous professional development and collaborative learning environments significantly contribute to teachers' ability to integrate digital tools effectively in their teaching practices. Similarly, Avci and Pedersen (2023) emphasize the importance of professional engagement in fostering a culture of digital competence among educators, noting that active participation in professional learning communities enhances teachers' confidence and proficiency with digital technologies. The teachers are using different digital communication channels for various purposes and effectively protected sensitive content (Krupa, 2025).

Because of its great potential, integrating digital tools and resources into STEM education has attracted a lot of attention. One important component of giving instructors the digital skills they need to efficiently coordinate digital resources is digital professional development. The results of the PLS–SEM analysis show that professional learning communities and digital instructional integration are directly positively correlated with digital professional development. Similarly, there is a good correlation between digital instructional integration and professional learning networks. Findings indicate that professional learning communities significantly mediate the beneficial relationship between digital professional development and digital instructional integration in terms of indirect effect (Liu et al., 2024). According to current literature, employee engagement has been mostly influenced by the existence of job resources, particularly by being funneled through professional identity. As such, Anika and Nurhayati (2021) argued that there is an interaction between job resources and employee engagement that can be appropriately mediated by professional identity among millennial in the banking sector. This is evident from the results presented that job satisfaction and work-related requirements are critical predictors of work engagement in the healthcare profession (Xu et al., 2022).

Workplace culture impacts employee involvement in the workplace. When supported by their company, especially concerning a situation like the COVID-19 pandemic, there is an increased chance that employees would be involved, as proved by research (Ashfaq, 2023). Chang shares the same view concerning this when saying that professional involvement reduces the chances that nurses will leave employment. This is because it helps to provide professional opportunities whereby nurses can take part in improvements in the workplace (Chang, 2023).

Organizations need to focus on developing the type of culture that will ensure the workforce feels good about their professional identities. This develops based on how professional identity is aligned with job resources. Moreover, Williams et al. (2022) conclude that professional engagement is an integral part of teachers' digital competencies and should be supported by formal programs of professional development, focusing both on the technological skills and pedagogical strategies. These studies together suggest that fostering professional engagement is necessary for the development and maintenance of teachers' digital competencies. The quick advancement of technology has had a big impact on education, particularly on the teaching and learning process. In Indonesia, a developing nation, it is crucial to look at teachers' professional digital competence (TPDC). To identify possible gaps and opportunities for growth through training programs, it is critical to understand the level of professional digital competency among instructors. The results showed that, while it has the smallest coefficient, PIS has a direct impact on TPDC. PTL has a direct effect on both SDC and TPDC at the same time. Furthermore, SDC has a big impact on TPDC. On the other hand, SDC is more significantly impacted by the direct coefficient of PTL than TPDC. Accordingly, when mediated by SDC, the structural model predicts that PTL will have a significant impact on TPDC (Wiyono, Imron, Rahma, Arifah, Azhari, Sibula & Maharmawan, 2024).

The second domain of teachers' digital competence is digital resources. The digital skills at a higher level, therefore, become more relevant to digital resources, teachers' competence nowadays. Moreover, the framework of the European Commission's DigCompEdu emphasizes how a good teacher is supposed to be effective at the selection, creation, adaptation, and diffusion of digital resources (Redecker et al., 2017). Moreover, Liesa-Orús et al. (2020) noted that teachers hold digital equipment as a crucial learning resource for the development of 21st-century skills such as teamwork and imagination. Despite the growth in this area, inequalities persist within definitions and implementations of what constitutes digital resources in schooling contexts. Research studies like Maiier and Koval (2021) have pointed out the urge to come up with clearer frameworks regarding the delivery of digital resources within teaching practice. Hence, inclusion in teaching approaches is, according to most guidelines, recommended to be an extremely relevant practice in the context of educators' skills development related to digital literacy. On the empirical level, the meaningfulness of, and involvement in, learning experiences produced are relevant for effective selection, utilization, and assessment. Motivation and enrichment of learners in relation to quality education is the critical role played by digital resources (Althubyani, 2024). Although such advantages are generally realized with inequality in the availability of the technology and skills needed among teachers, it is with such calls that the focused professional development efforts would prepare teachers to overcome such barriers and optimize the use of digital tools. The teachers carefully consider how, when, and why to use digital technologies in class to ensure that they are used with added value and monitor learners' behavior and engagement in the collaborative digital environments they are using (Haleem et al., 2022).

The COVID-19 pandemic has further emphasized the strong role of digital competence, because the more reliance the learner had on digital products-including online platforms, videos, and other multi-media resources-the bigger was the need for learners to be able to manage it. Méndez et al. (2022) stated that efficacy often lacked because of weak preparation: most teachers resorted to informal resources or tutorials available online to broaden their skill set. This underscores a call for the establishment of standardized teacher training programs aimed towards different ways technology materials may be used, such as for contents, evaluation, and other international goals, such as United Nations' Sustainable Development Goal 4, which promotes good learning for all (Alberola-Mulet et al., 2021).

The third domain of teachers' digital competence is teaching and learning. Digital competence plays a significant role in the teaching and learning setting as it ascertains that teachers may incorporate technology into their pedagogy successfully. Core incorporation models include, for example, Technological Pedagogical Content Knowledge or TPACK as its application addresses the intersection of content, pedagogy, and technology to maximize learning outcomes (Koehler, Mishra, & Cain, 2013). The teachers had used digital assessment formats to monitor student progress and reflect on the digital and non-digital evidence they had on learners' behavior and progress to better understand individual problems (Grosseck et al., 2023).This calls for better development of the teachers' digital competence, especially in teaching and learning, in a world characterized by demands in the education sector. Guerra-Antequera et al. (2022) noted that digital teaching competence, in summary, encompasses all aspects needed by a teacher in relation to technology, applied during the process of integrating into the pedagogical context in practice. It relates, most importantly, to engaging actively, fostering collaboration, and understanding emerging paradigms within educational sectors. Frame works like the European Digital Competence Framework for Educators, known as Dig Comp Edu , help

Teachers build their digital competencies, focusing on content creation, ethical use of technology, and professional development. The systematic review by Guerra-Antequera et al. emphasizes that although most teachers believe that DTC is a fundamental need, its implementation depends mostly on the availability of training and resource support specific to educational environments.Méndez et al, 2022 added; "Digital competency means that in fulfilling Sustainable Development Goal 4 on a quality and equal basis while remaining open to learning opportunities across all stages of life the world takes action for success.". The COVID-19 pandemic has created a strong emphasis on the training of instructors on the use of digital resources since video conferencing and content management systems have become new pillars of continued education. However, there are domains that need improvement and especially the infrastructure inconsistency as well as the diversity in teacher's skills. Improvements in these areas will usher in a more subtle improvement of teaching techniques that advance scholars' success and equality because they will be pointing toward the need for continued teacher training, strongly by the institutions.

The fourth domain of teachers' digital competence is assessment. Digital assessment has emerged as an important domain of the digital competence of teachers along with the continually changing environments of educational technologies. According to the European framework Dig Comp Edu, three important aspects in this regard are measurement of learning outcomes, giving feedback, and supporting self-regulation (Grosseck et al. 2024). This research reveals that although, in general, teachers are using digital tools to support assessment, there is much heterogeneity in their levels of competencies, and many teachers consider there is a need for more preparation to improve their competence in this area (Revuelta-Domínguez et al., 2022). Moreover, the use of digital assessments, especially during the COVID-19 pandemic, has highlighted the requirement for valid and adaptive hybrid models that can seamlessly integrate summative and formative assessments (Grosseck et al., 2024). Such a tool ensures not only the measurement of student knowledge but also adaptive learning as well as continuous feedback, thus requiring continuous professional development (Aranda, 2022). Besides, the teachers use digital technologies to provide effective feedback and help students understand their learning needs they used digital technologies to more actively involve learners and teach them how to check if information is reliable and to identify fake news (Beardsley, Albó, Aragón & Hernández-Leo, 2021).

Assessment is among the areas of teachers' digital competence that plays a very important role in enhancing instructional strategies and measuring the outcomes of learning in digital environments. Cabero-Almenara and Palacios-Rodríguez (2020) emphasize the need for strong tools and frameworks that will assess digital competence in keeping with pedagogical goals. These tools not only assess technical skills but also measure the effective integration of technology in assessing student performance. In this regard, Grosseck et al. (2019) indicate the increased need for standardized digital assessment instruments with emphasis on their necessity to develop teachers' capability in designing innovative and inclusive evaluation methods- especially in the context of blended and online learning. Such tools will enable teachers to produce more personalized, adaptive, and equitable approaches toward assessment in order to keep education relevant in an ever-changing digital environment.The fifth domain of teachers' digital competence is empowering learners. Empowering learners is another indicator of one's digital competence of a teacher, especially in encouraging individualized learning and stimulating learner engagement with the help of digital tools. Research proves that teachers empowering learners using technology encourage active engagement, differentiation, and skill building. For example, the preparation of learners was said to be an essential aspect of digital competence as a teacher provides digital tools for adjusting learning based on the needs and abilities of the learners and increasing students' motivation and interest (Althubyani, 2024).

Digital resource empowerment facilitates the provision of an environment that fosters differentiated instruction and self-regulated learning where the learner controls his process (Vieira et al., 2023). Digital technologies can also play a vital role in creating an inclusive learning environment while providing learners with diversified learning needs (Education Estonia, 2021). The last domain of teachers' digital competence is facilitating learners' digital competence. Facilitating learners' digital competence is a key indicator of teachers' digital competence, reflecting the ability of educators to empower students with essential skills for the digital age. Recent research emphasizes the critical role of teachers in promoting digital literacy, guiding learners to use digital tools effectively in various educational contexts (Yang et al. 2021). On the same note, Scherer and Teo (2020) hold that the extent of perceived usefulness of ICT tools by teachers is directly related to teachers' ability to catalyze digital competence in learners. Moreover, according to Claro et al. (2021), a robust digital competence among teachers is vital for fostering students' abilities to navigate, create, and communicate in digital environments, ultimately preparing them for the demands of the 21st-century workforce.

Learner's Engagement. Learner's engagement has become the hub of research in education, especially when a learning environment cuts across technology. The activation of learning engagement requires activation of the cognitive, emotional, and behavioral dimensions of learning. For instance, Chiu (2021) referenced Self-Determination Theory in explaining how autonomy, competence, and relatedness increase online learning engagement that can be seen in relation to the pandemic of COVID-19. Likewise, Haerens (2021) have cited motivational behaviors of instruction such as providing autonomy support and giving meaningful feedback. Cooper (2022) has also mentioned that interactive elements like discussion boards enhance the students' participation in synchronous online learning. These results manifest the importance of strategic instructional design and the significance of supporting the students' autonomy for ensuring engagement across different learning environments.

Furthermore, studies have highlighted the role of engagement by students as a determinant of academic performance. Traditionally, engagement has been understood as any manifestation of behavioral, emotional, and cognitive involvement. However, new approaches emphasize that more exists. For example, Bae and DeBusk-Lane (2019) concluded that patterns of academic engagement, characterized by the best possible behavioral involvement, decisively determine what constitutes success in academics. Students engage in learning activities on multiple levels, including emotional, cognitive, agential and behavioral. In order to assess the relative strength of correlation between each form of involvement and each correlation, all 62 research measured all four categories of engagement. The best indicator of achievement was behavioral involvement. The most reliable indicator of social support was agentic engagement. There was no specific relationship between cognitive engagement and any particular result. Motivation and well-being were both highly correlated with emotional engagement (Reeve, Basarkod, Jang, Gargurevich, Jang & Cheon, 2025).

Further, student disengagement is increasingly becoming a concern in the Philippines. Agregado and Gaitano (2024) that the learners' engagement of Filipino students was high. Montano (2021) insists that the mental stress of the pandemic and the disengagement caused due to lack of interaction significantly underlined this aspect to lower down students' motivation levels and performance factors. This brings out in forefront the grave need for developing all-rounded plans to maintain the engagement levels of students in the changing world of learning. Study made by Gubaton (2024) 40% of the student respondents are on the moderate level which accordingly alarming if not given enough attention and proper actions. Similar to Sá (2023), academic and extracurricular engagement is central to the integration into the academic environment among higher education students, in persistence and success. Interplay between student retention and engagement Tight (2020) explores how matters have changed within student retention and engagement. This author views the times as when now, institutions bear more responsibility for engagement, this having moved ahead of retention as the focus of higher education research. Together, the studies point out the fact that motivating the learning of students is not only an improvement in terms of academic outcome but also the generalization of the educational experience.

Investigations into pupil engagement have highlighted its role in enabling effective learning and have identified several behavioral, emotional, and cognitive factors linked to it. Tomaszewski et al. (2022) conclude that successful instructional strategies have a considerable impact on enhancing pupil engagement, which further acts as a mediator in enhancing the performance of the students. Their longitudinal data points out the need for varied teaching strategies to ensure ongoing attention, participation, and effort toward academic tasks. Similarly, Chiu (2021) reported that engagement levels could be increased significantly through the development of psychological well-being and self-determination through goal setting and autonomy promotion strategies, especially in online learning environments during the pandemic. Interactions with teachers and peers are necessary for the persistence of behavioral engagement as mentioned by Nguyen et al. (2022). For instance, interpersonal positive relationships have been found to increase participation and persistence in the performance of activities when the teacher delivers one-to-one attention, or peers support the tasks enhancing learning. Group work, as well as collaborative projects, enhance engagement because activeness in participation is increased as mutual support among participants occurs. These studies collectively indicate that engagement strategies need to cover both the relational and the instructional dimensions to maximize learning outcomes. The first indicator of pupils' engagement is cognitive dimension. The cognitive aspect of the engagement of students is becoming recognized as a better indicator of general academic involvement and success. According to Barkley and Major (2020), the level of investment a learner would put into the learning processes essentially deals with cognitive aspects of engagement which, in turn, creates deeper understanding and the critical thinking abilities of the learner. Further, Wang and Eccles (2012) indicate that the students who exhibit levels of cognitive engagement are motivated, not to give up, and influence their graduation-related grades.

The learners pay attention during class (Hafez et al., 2023). They evaluate the opinion discussed in the classroom and feel that they are an important member of their learning team (Amerstorfer et al., 2021).Moreover, Jang et al., (2010) indicates the use of cognitive strategies to sustain students' engagement for a more extensive time because it states that by actively manipulating and relating new information, the engagements multiply. These studies demonstrate that the two major constituents engaged in improving student engagement are cognitive processing and the role of educators in making apt strategies to engage their students in learning.

Student engagement holds two other significant aspects-in addition to affective involvement-that are cognitive engagement where students take interest in learning that can use deep cognitive processes related to critical thinking, problems-solving, and self-regulation. A measure that reflects cognitive engagement may exist as the application of knowledge and skills related to utilization and regulation of knowledge (Li & Lajoie, 2022). This resulted in further findings that learners who cognitively invest in the academic task appear to achieve higher and persist in the process. Rivas et al., (2022) also posit that the metacognitive activities such as planning, monitoring, and evaluating of the learning process are those which lead to being able to focus on changing classrooms and, hence achieving academic tasks. Beyond this, Vermeulen and Volman (2024) pointed out that cognitive engagement measures specific to task since activities which provide adequate room for deep interrelating of previous knowledge with the new content enhance meaningful learning. The same thing recommended by Rivas et al. (2022) who said that once different cognitive strategies, that are elaboration and organization, combined with reflection can maximize the depth. These studies point to the fact that active learning instructional designs, which support problem-based learning and tasks designed to encourage collaboration, enhance not only understanding but also pupils sustained mental effort during their academic activity. All these results point to the fact that students' cognitive engagement is an important sign of their students' overall academic engagement and achievement.

The second indicator of pupil engagement is affective dimensions. The affective dimension of student engagement, which reaches as far as emotional response from students toward learning, is important for altering students' experiences and outcomes. According to Tian et al. 2021), interesting, enjoyable, and a feeling of belonging create positive emotions that may enhance the ability of students to be motivated and persistent in undertaking academic tasks. Also, Duchesneau (2020) proposes that learning environments which afford children emotional support from peers and teachers tend to cultivate higher levels of engagement, hence leading to better academic results. Likewise, Gueldner et al. (2020) have indicated that the use of emotional regulation strategies can be enlisted to help keep children interested in learning; they observe further that even the most able students who can cope with it and regulate their emotional response will be most robust and engaged when opportunities are challenging. This, therefore, reflects the fact that the affective dimension plays a crucial role in the achievement of student engagement and academic achievement.

This includes emotional responses, sentiments, and affective states that serve as indicators of student interaction with educational materials. As noted by Romano et al. (2021), "perceptions of the importance of school, emotional connection to learning in school, peer support, and educator support and involvement" are fundamental factors that shape and profoundly impact the degree of engagement. The emotional aspect greatly contributes to the complexity of the cognitive and behavioral components of engagement in analyzing the level of emotional engagement a student feels in relation to academic activities and their feelings about community and belonging within a learning environment. Such initiatives as "Check & Connect" have been used to measure the levels of affective engagement; however, empirical research shows that the results have been inconsistent in terms of demographic characteristics of participants and the specific contexts in which these programs were implemented.

According to this, the study conducted by Kovács et al., (2022) found emotional resilience and parental involvement to be strong predictors of students' engagement. These elements have high importance since they reflect on the resilience in which a student copes emotionally with their performance. Moreover, they portray general wellbeing needed for full and effective engagement in activities undertaken for educational purposes. It means that the researchers conclude on developing supportive conditions, such as at home or schools, because the aforementioned situations only release emotional and academic hurdles on learners' shoulders. Collectively, all these probes underscore the importance of the affective domain within comprehensive efforts to develop and enhance measures for student involvement. The third indicator of pupil engagement is behavioral dimension. The behavioral dimension determines the participation and involvement of students in educational activities mainly due to the nature of student engagement.

According to Beisly (2020), behavioral engagement encompasses on-task student behavior, attendance, and active participation-very important indicators in predicting academic achievement. Also, according to Yu and Li (2020), the more that students become behaviorally engaged, the higher their chances of perseverance even in the presence of obstacles, and they can accomplish their intended jobs as well; subsequently, they contribute positively toward their overall performance in academics. In addition, Jin et al. (2022) assert that systematic behavioral engagement creates an optimistic learning environment because active participatory behaviors amongst the pupils' influence student peers' behaviors. Both these studies therefore collectively emphasize the critical significance of behavioral factors in enhancing student engagement and success. The learners feel excited about the activities that they experience in the classroom. The learners feel energized by the ideas they are learning in most of their classes. The pupils feel that their interaction with their classmates helps them understand better (Shin, M., & Johnson, 2021). Lastly, they regularly participate in class discussions in most of their classes.

This factor provides a significant portion in making sense of learners' wholesome engagement. Cents-Boonstra et al. (2021) point out that an observable behavior by a child is perseverance, effort and active participation in a range of classroom activities that portray behavioral engagement. This attribute has often been associated with students' success in their studies and lesser dropout rates among them since most students who often participate in discussions and teamwork tend to be successful in their academics. According to Han and Gutierez (2021), this aspect has two significant types of participation; these include active participation such as raising questions and reacting to conversations while passive participation, which follows the expectations in class, including its behaviors. This therefore involves the high quality of both kinds of engagement through interactions that involve interaction between the students and their educators as well as students with other peers. Hence, teacher-student relationships are very crucial in ensuring behavioral engagement is encouraged. The educators who embrace dialogic instruction which involves the students giving a more elaborative response do contribute greatly to enhancing the engagement as Cui and Teo (2021) adduces. Similarly, constructive peer interactions and collaborative efforts on academic assignments are essential indicators of behavioral engagement. Organized group work, according to research done by Sun et al. (2020), leads to improving concentration and engagement for the student in the presence of peer collaborative opportunities coupled with structure guided by teachers; a balanced combination which enhances student learning in an education system due to sustained behavioral activation of students.

Related Studies : The connection between digital competence of teachers and the learners' engagement were strengthened by the findings show that compared to students of teachers in the control group, students of teachers who got the training reported higher levels of student engagement. According to the findings, educators who take part in the professional development program offered by the Freedom Writers Institute might have a more beneficial effect on their pupils' involvement in school than those who do not (Powers et al., 2015). The study findings of Torres et al., (2023) emphasized that ICT capability of the teachers in the classroom helped create an engaging environment among learners. The results further supported the notion that teachers' competency and ICT resources have positive effects on both academic performance and learners' engagement (Hanaysha et al. 2023). Additionally, the study found that 78% of teachers had very favorable opinions about using digital tools. Additionally, the findings show that subjective standards and perceived utility have a direct impact on digital competency. The advantages of digital technologies and the difficulties teachers face when integrating them into the classroom are also noted in this study (Althubyani, 2024).

Theoretical Framework : This study was anchored on Self-Determination Theory (SDT), proposed by Deci and Ryan (1985). SDT posits that children's engagement is enhanced by the satisfaction of three basic psychological needs: autonomy, competence, and relatedness. A teacher perceived as competent in her instructional practice will facilitate children's need for better skill, leading to higher motivation and engagement for the activity to learn. The contemporary applications of SDT indicate that teacher competence plays a significant role in establishing an effective learning environment that enhances pupil engagement and learning.
This study hypothesized that there is a relationship between teachers' digital competence and the level of engagement among students. When the teachers have good digital competence, they could produce a highly interactive learning environment. This would mean that there will be active participation of the students during the teaching-learning process. High teachers' digital competence has a great bearing on their capabilities for the design of learning experience, which goes a long way to promote cognitive and behavioral engagement in students. Figure 1 presents the independent variable, teachers' digital competence which has six indicators namely: professional engagement, digital resources, teaching and learning, assessment, empowering learners and facilitating learners' digital competence (Dias-Trindade & Moreira, 2020). Meanwhile, the dependent

variable of this study is learner engagement that contains three indicators, cognitive dimension, affective dimension and behavioral dimension (Nazamud-din et al., 2020).
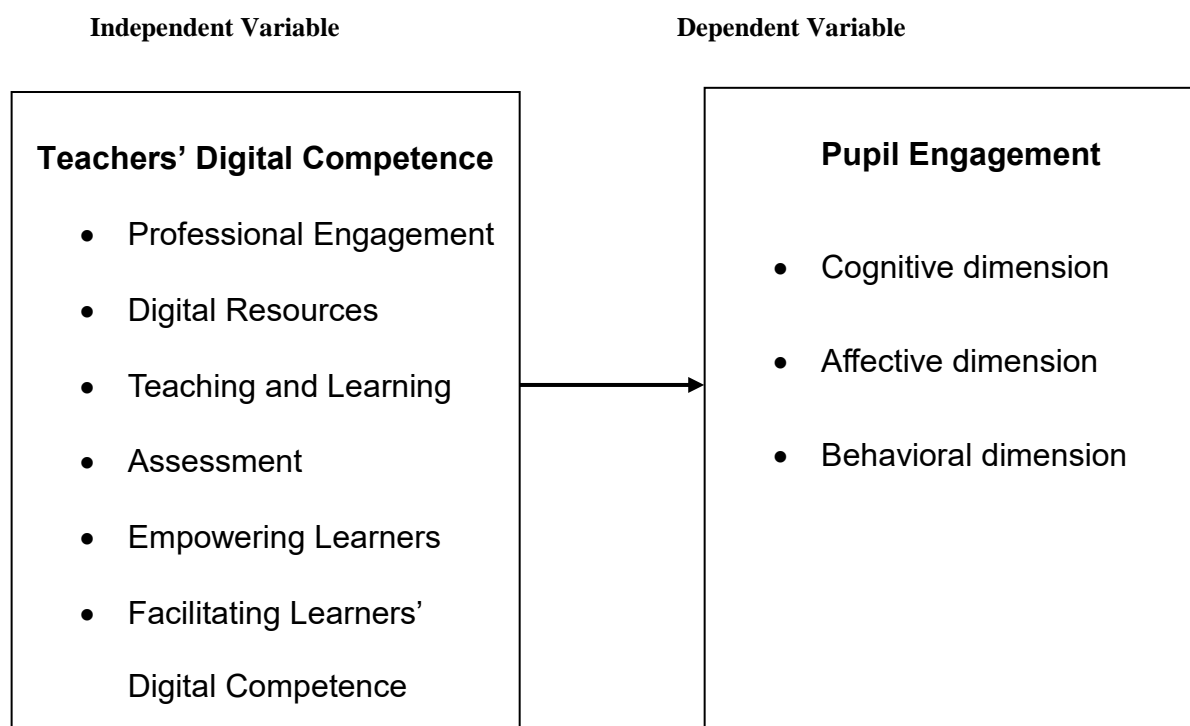
Independent Variable   **Dependent Variable**

Teachers' Digital Competence	**Pupil Engagement**
• Professional Engagement • Digital Resources • Teaching and Learning • Assessment • Empowering Learners • Facilitating Learners' Digital Competence	• Cognitive dimension • Affective dimension • Behavioral dimension

Figure 1 Conceptual Framework

Statement of the Problem : The main purpose of this study was to determine the relationship between teachers' digital competence on pupil engagement as perceived by elementary school teachers of Maragusan West District. Specifically, it aimed to seek answers to the following questions:
1. What is the level of the teachers' digital competence in terms of:
1.1   professional engagement,
1.2   digital resources,
1.3   teaching and learning,
1.4   assessment,
1.5   empowering learners, and
1.6   facilitating learners' digital competence?
2.   What is the level of the learners' engagement in terms of:
2.1   cognitive engagement,
2.2   affective engagement, and
2.3   behavioral engagement?
       3. Is there a significant relationship between teachers' digital competence and the learners' engagement?

Null Hypothesis
The hypothesis below was tested at 0.05 level of significance.
HO$_1$ There is no significant relationship between teachers' digital competence and pupil engagement.

Scope and Limitations of the Study : This study aimed to determine the level of teachers' digital competence and pupil engagement and the relationship between them. The study was conducted in 10 public elementary schools of Maragusan West District, Division of Davao de Oro for school year 2024-2025. An adapted survey questionnaire was used to gather the essential data from the respondents. Further, the indicators for the teachers' digital competence which was the independent variable included professional engagement, digital resources, teaching and learning, assessment, empowering learners, and facilitating learners' digital competence.   The dependent variable which was the learner engagement also included cognitive engagement, affective engagement and behavioral engagement.

Significance of Study
The results of the study would be beneficial to the following individuals:

Learners. The results of the study would help the learners become more motivated to participate in classroom discussions and activities. Their cooperation is key to becoming successful learners.

Teachers. The results of the study would encourage the teachers to be more knowledgeable in terms of digitization that would help them to be more competent in the use of technology in teaching.

School Administrator . The results of this study would provide insight for the school administrators on how digital competence is and how this would affect the engagement of the students.

Department of Education. The results of this study would serve as eye opener for the Department of Education officials to plan activities to equip and enhance the teachers' digital competence for the benefit of the students.

Other Researchers. The results of the study could be the bases for further studies considering essential factors other than the factors identified in this study. The results will further lay the groundwork for new studies based on developing further research in the context of digital competence and learners' engagement where researchers can fine-tune their interventions to meet needs.

Definition of Terms : For the clarity and better understanding of this study, the following terms were operationally defined:

Affective Dimension. It refers to how the pupils feel that they are an important member of their learning team.

Assessment. It refers to how teacher use digital assessment formats to monitor student progress.

Behavioral Dimension. It refers to how the pupils take advantage of available learning resources other than what their teachers have provided.

Cognitive Dimension. It refers to how the pupils interact in class using their mental faculty.

Digital Resources. It refers to how teacher create my own digital resources and modify existing ones to adapt them to his/her needs.

Empowering Learners. It refers to how teacher use digital technologies to more actively involve learners

Facilitating Learners' Digital Competence. It refers to how teacher encourage learners to use digital technologies creatively to solve concrete problems.

Learners' Engagement. It refers to the cognitive dimension, affective dimension and behavioral dimension.

Professional Engagement. It refers to how teacher use digital technologies to work together with colleagues inside and outside my school.

Teachers' Digital Competence. It refers to professional engagement, digital resources, teaching and learning, assessment, empowering learners and facilitating learners' digital competence.

II.   METHODS

This chapter deals on the research design, the research locale, research respondents, research instrument, validation of instrument, data gathering procedure, and the statistical tools used in analyzing the data gathered in the study.

Research Design : In this study, the researcher used quantitative descriptive-correlational research design. By using this design, the researcher did not control or manipulate the variables either because the variables had already occurred or because it is not possible for these to be controlled. The researcher needed to consider possible alternative explanations, to gather legitimate answers to the research questions, to determine the relationship of the variables which best influences with corresponding theories, to jointly analyze several

variables, and to present conclusions without making definitive causal statements. This includes published studies that were incorporated into the discussion to facilitate understanding (Creswell & Creswell 2017).

Quantitative research is an important area of research for educators because there are so many important but non-manipulable independent variables needing further study in the field of education (Johnson, 2001). The research design was chosen since it determines the level and the relationship between teachers' digital competence and learners' engagement as perceived by the teachers in public elemenentary schools of Maragusan West District.

Research Locale : This study was conducted in the Municipality of Maragusan, province of Davao de Oro. Maragusan is bounded by New Bataan in the north; on the southern side, it faces Pantukan; the eastern side with Davao Oriental; and the western side with Maco and Mabini, Davao de Oro. It comprises of 24 barangays. According to the 2015 census, it has a total population of 60,842. Its original name is San Mariano. Its population is diverse of which the Mansaka tribe is the majority among other ethnic groups. It is known as "Little Baguio" because of its temperature. The terrain is rugged and mountainous and gifted with beautiful green sceneries. Because of its cold climate different variety of plants abound the whole municipality and agriculture is the chief livelihood of the people. It is one of the major suppliers of fruits like bananas and vegetables within and outside of the province of Compostela. The place has produced the sweetest banana ever and it is also known not only in Davao de Oro Province but also in the region because of its very rare species of a flower which has the largest petals. The Mansaka people were the original settlers of the place before the arrival of the majority. Today these people occupy the highest population among the ethnic tribes whereas the Mandaya tribe ranks second.
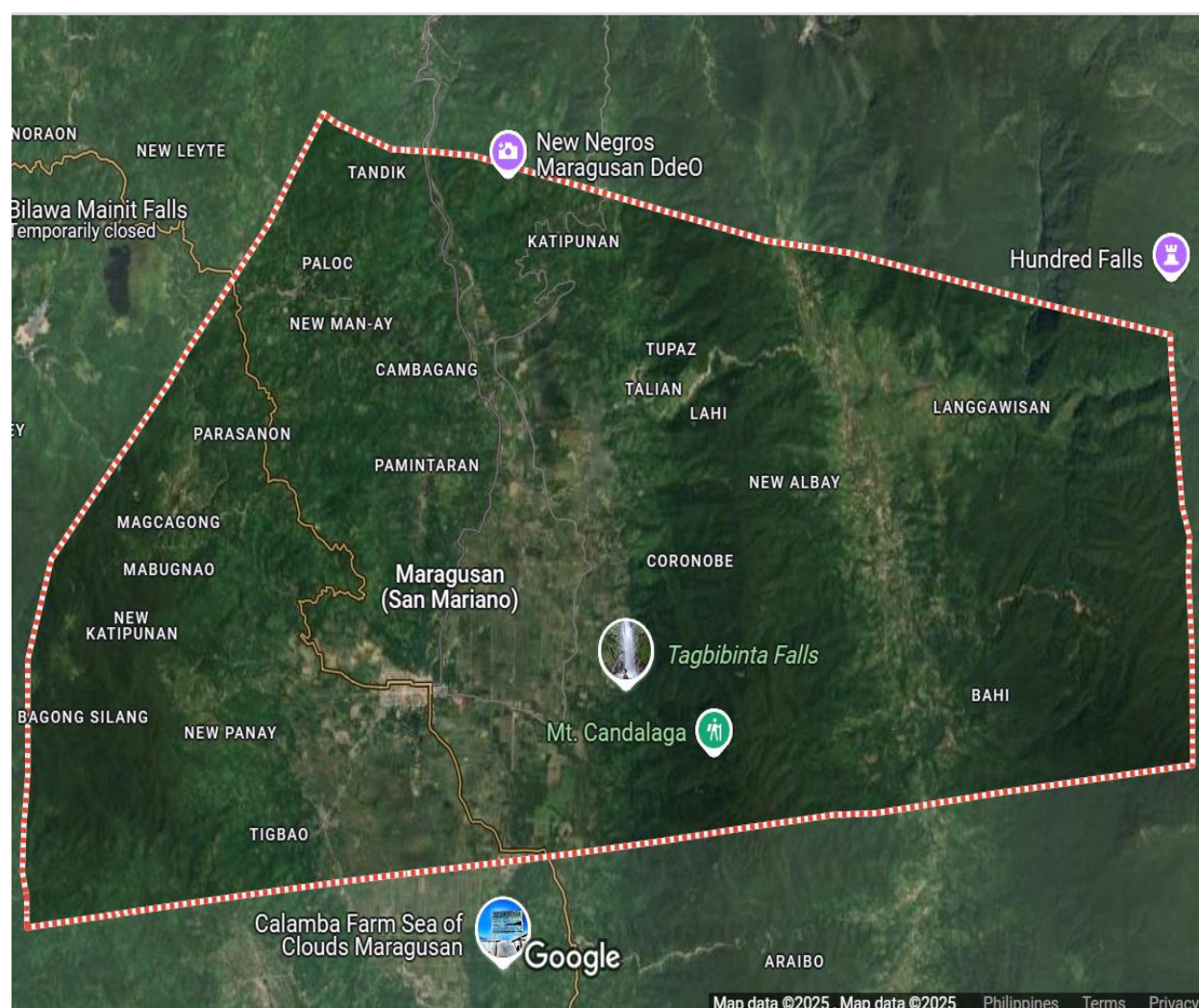

Figure 2 Location Map of the Study

Respondents of the Study : The respondents of this study were the public elementary school teachers in Maragusan West District to wit: According to the SBM categorization, Bagong Silang Elementary School is a medium school that is managed by a principal. Bagong Silang is a barangay located in the province of Davao de Oro's municipality of Maragusan. Its inhabitants made up 5.22 percent of Maragusan's overall population. Bagong Silang is located on the island of Mindanao at around 7.2940, 126.1039. It is calculated that the elevation at these coordinates is 2,310.7 feet, or 704.3 meters, above mean sea level.

Mabugnao Elementary School is a small school administered by a teacher in charge. Mabugnao is a barrio in Maragusan municipality, Davao de Oro province, Philippines. According to the most recent census, the population was 406. This accounted for 0.63% of the total population of Maragusan. Mabugnao is located on Mindanao Island at roughly 7.3182, 126.0779. Elevation at these locations is calculated to be 1,405.8 meters (4,612.1 ft) above mean sea level. Magcagong Elementary School is a medium school that is led by a school principal. Magcagong is a barrio in Maragusan Municipality, Davao de Oro Province. According to the most recent estimates, its population was 3,417. This accounted for 5.30% of the total population of Maragusan. Magcagong is located on Mindanao Island at roughly 7.3239, 126.1003. Elevation at these locations is calculated to be 869.5 meters (2,852.7 ft) above mean sea level.

Mahayahay Elementary School is a small school which is overseen by a teacher in charge. Mahayahay is a barangay in the municipality of Maragusan, in the province of Davao de Oro. Its population was 663. This represented 1.03% of the total population of Maragusan. Mahayahay is situated at approximately 7.3518, 126.0861, in the island of Mindanao. Elevation at these coordinates is estimated at 1,141.9 meters or 3,746.3 feet above mean sea level. Maragusan Central Elementary School is a very large school which is managed by a school principal II. The school is situated at Poblacion Maragusan with approximately 7° 19' North, 126° 8' East, in the island of Mindanao. Elevation at these coordinates is estimated at 674.8 meters or 2,213.2 feet above mean sea level. WhileSaranga Elementary School is a medium school which is ruled by Teacher In-Charge. A general population was used as respondent of the study. Saranga is a hamlet in Province of Compostela Valley, Davao Region. Saranga is situated near to the village Pamintaran, as well as near the neighborhood Cape.

Mauswagon Elementary School is a medium school which is supervised by the head teacher. Mauswagon is a barangay in the municipality of Maragusan, in the province of Davao de Oro. Its population was 3,100. This represented 4.81% of the total population of Maragusan. Mauswagon is situated at approximately 7.3029, 126.1239, in the island of Mindanao. Elevation at these coordinates is estimated at 655.5 meters or 2,150.6 feet above mean sea level. New Katipunan Integrated School is a medium school administered by a school principal. New Katipunan is a barangay in the municipality of Maragusan, in the province of Davao de Oro. Its population was 3,009. This represented 4.67% of the total population of Maragusan. New Katipunan is situated at approximately 7.3067, 126.1097, in the island of Mindanao. Elevation at these coordinates is estimated at 715.4 meters or 2,347.1 feet above mean sea level.

Table I
The Distribution of Respondents

School	Population
Bagong Silang Elementary School	17
Mabugnao Elementary School	5
Magcagong Elementary School	13
Mahayahay Elementary School	6
Maragusan Central Elementary School	77
Parasanon Integrated School	16
New Katipunan Elementary School	11

New Panay Integrated School	14
Mauswagon Elementary School	11
Saranga Elementary School	10
Total	**180**

New Panay Integrated School is a medium school which is directed by a teacher in charge. New Panay is a barangay in the municipality of Maragusan, in the province of Davao de Oro. Its population was 1,373. This represented 2.13% of the total population of Maragusan. New Panay is situated at approximately 7.2757, 126.1169, in the island of Mindanao. Elevation at these coordinates is estimated at 640.7 meters or 2,102.0 feet above mean sea level. Parasanon Integrated School is a medium school which administered teacher-In-Charge. Parasanon is a barangay in the municipality of Maragusan, in the province of Davao de Oro. Its population as determined by the 2020 Census was 820. This represented 1.27% of the total population of Maragusan. Parasanon is situated at approximately 7.3687, 126.0918, in the island of Mindanao. Elevation at these coordinates is estimated at 1,079.3 meters or 3,541.0 feet above mean sea level.

Research Instrument : This study used adapted questionnaire in gathering the needed data that underwent modification to fit in the research purposes and respondents. The first was the teachers' digital competence was taken from work of Dias-Trindade and Moreira (2020) which was broken down into six domains namely: professional engagement, digital resources, teaching and learning, assessment, empowering learners and facilitating learners' digital competence. The survey questionnaire consists of 22 items distributed among six domains. Using the Likert Scale, 4 is the highest and 1 is the lowest.

To measure the level of teachers' digital competence, the following parameter limits were used:

Range of Means	Descriptive Equivalent	Interpretation
3.50 – 4.00	Very High	This means that teachers' digital competence is always observed.
2.50 – 3.49	High	This means that teachers' digital competence is mostly manifested.
1.50 – 2.49	Low	This means that teachers' digital competence is seldom manifested.
1.00 – 1.49	Very Low	This means that teachers' digital competence is rarely or never manifested.

On the other hand, the questionnaire for learners' engagement adapted from the work of Nazamud-din etal. (2020) that contains three indicators, cognitive engagement, affective engagement and behavioral engagement. These indicators have six items statements each.

To measure the learners' engagement, the following parameter limits were used:

Range of Means	Descriptive Equivalent	Interpretation
3.50 – 4.00	Very High	This means that the learners' engagement is always observed.

2.50 – 3.49	High	This means that the learners' engagement is mostly observed.
1.50 – 2.49	Low	This means that the learners' engagement is seldom observed.
1.00 – 1.49	Very Low	This means that the learners' engagement is rarely or never observed.

Validation of the Instrument : The instruments used in this study came from published sources that undergone validation. Further, the modified questionnaire underwent pilot testing to 10 teachers, who are not the respondents of the study but having the same attributes to determine the Cronbach Alpha or the reliability of the questionnaires. In addition, the questionnaire also undertook content validation by a panel of experts and external validator of the same field.

Research Procedures : The researcher followed the proper protocol of the study before the collection of data started.

Permission to Conduct the Study. Before asking an endorsement letter from the dean's office, the researcher submitted her corrected manuscript for ethics review. Once approved bythe Ethics Review Committee, an endorsement letter from the Dean of the Graduate was asked together with the letter of intent to conduct the study was prepared and submitted to the Schools Division Superintendent (SDS) for acknowledgment and approval. Upon the issuance of the permission from the SDS, the researcher presented this letter to the ten school principals of the participating schools to give the researcher the go signals to conduct the study. The nature of the study was explained to the respondents more specifically the teachers of selected schools since they were the respondents of the study.

Administration and Retrieval of Questionnaire. It was explained to the respondents the purpose of the study and the confidentiality of their responses will be taken into consideration. To ensure that the respondents would become more responsible in answering each item, the researcher solely administered, retrieved and encoded all their responses in her personal computer. Another ethical factor and element were being observed in this research is recruitment. This further means that the researcher had to inform the respondents of the purpose and intent of the survey. In addition, to determine these respondents, the researcher wrote a letter to the division office of the Department of Education with its district office in Maragusan West to help the researcher determine the teacher participants to participate in the survey. All teachers holding teaching positions from Teacher 1 to Master Teacher 4 were eligible to participate in the survey.

Analysis and Interpretation. The researcher employed suitable statistical tools to assist in the analysis and interpretation of the data. To ensure a systematic presentation, the researcher followed the statement of the problem as a guide. Tables were presented to present the results of the study. All data collected were computed, analyzed and interpreted.

Statistical Treatment of Data : The responses to the items were analyzed and interpreted using the following appropriate statistical tools:

Average Mean. This was used to determine the level of the teachers' digital competence and the engagement of the learners.

Pearson r. This was used to determine the relationship between the teachers' digital competence and the learners' engagement.

Ethical Consideration : Ethical consideration presents the beliefs and concepts that should be maintained throughout the study. With this, the researcher ensured that the ethical standards were strictly followed throughout the study addressing the areas that follow (Bhashin, 2020),

Social Value. This research was made to determine the significant relationship between teachers' digital competence and the learners' engagement in public elementary schools of Maragusan West District.

This study aimed to answer the following questions: what domain of teachers' digital competence significantly predicts the learners' engagement? The results would be shared with the institution and will be published in the online journal, so other related researchers copuld make use of it as a reference.

Informed Consent. The researcher distributed Informed Consent Forms (ICF) to the identified respondents. The researcher disclosed the essential information such as the name and affiliation of the researcher. It was emphasized that the participation of the respondents was purely voluntary, and they were free to withdraw anytime they feel any discomfort. The purpose of the study was explained, along with the procedures that was carried out for the study.

Vulnerability of the Research Participants. The researcher explained the entire process and emphasized that the participants had the freedom to opt out of the interview if they experience any discomfort and it would not affect them in any aspect.

Risks, Benefits, and Safety. The researcher explained the benefits of the participant's participation in the study. The in-depth interview was done during the most convenient time and place for the participants and any expenses incurred by them for the study was reimbursed by the researcher.

Privacy and Confidentiality of Information. The researcher made sure that the respondent's personal information, identity, and data gathered were kept confidential and secured to ensure that the Data Privacy Act of 2012 is being followed. The data collected and the files was transferred to a Google drive, which only the researcher could access. The data would be destroyed after the conduct of the study.

Justice. The research participants were chosen based on the inclusion criteria: must be an elementary school teacher within Maragusan West District. They were of any gender. While those in other secondary levels were excluded as respondents. In any case that research respondents that incurred expenses during the conduct of the interview, the researcher reimbursed them.

Transparency. To address this aspect, the researcher disclosed the affiliations and the objective of the study. The research respondents were given a copy of the transcript of their answers to verify the reliability and validity of the data gathered.

III. RESULTS

This chapter deals with the presentation, analysis and interpretation of the data collected. The results of the study were presented in accordance with the research questions outlined in chapter one.

Table 2
Levels of Teachers' Digital Competence

Indicator	Mean Rating	Descriptive Equivalent
Professional Engagement	3.61	Very High
Digital Resources	3.61	Very High
Teaching and Learning	3.44	High
Assessment	3.40	High
Empowering Learners	3.40	High
Facilitating Learners' Digital Competence	3.41	High
Overall	**3.48**	**High**

Shown in Table 2 is the level of teachers' digital competence. The overall mean obtained on the teachers' digital competence is 3.48 described as high. This means that teachers' digital competence is mostly observed. Specifically, the mean ratings of the indicators of teachers' digital competence are displayed from highest to lowest as follows: professional engagement and digital resources both achieved a mean rating of 3.61 or very high; teaching and learning obtains a mean rating of 3.44 describe as high; facilitating learners' digital competence garners a mean rating of 3.41; and lastly, assessment and empowering learners together got mean rating of 3.40 described as high.

Table 3
Professional Engagement

Indicator	Mean Rating	Descriptive Equivalent
1. I use different digital communication channels for different purposes.	3.69	Very High
2. I use digital technologies to work together with colleagues inside and outside my school.	3.60	Very High
3. I continuously reflect on how I can improve my use of digital technologies in teaching and learning.	3.63	Very High
4. I participate in online training opportunities	3.52	Very High
Overall	**3.61**	**Very High**

Table 3 showed the level of the first indicator, professional engagement. It has an overall mean of 3.61 or very high. Among items, the highest mean obtained in the statement "I use different digital communication channels for different purposes" which is 3.69 Interpreted as very high. The lowest mean of 3.52 in the statement "I participate in online training opportunities" that described as high.

Table 4
Digital Resources

Indicator	Mean Rating	Descriptive Equivalent
1. I use different internet sites and search strategies to find and select digital resources.	3.63	Very High
2. I create my own digital resources and modify existing ones to adapt them to my needs.	3.09	High
3. I effectively protect sensitive content	3.69	Very High
Overall	**3.61**	**Very High**

Table 4 shows the level of digital resources. It exhibits an overall mean of 3.61 or high. This divulges from the highest mean obtained in the statement "I effectively protect sensitive content" which is 3.69, described as very high. The lowest mean of 3.09 is the statement "I create my own digital resources and modify existing ones to adapt them to my needs." Described as high.

Table 5 presents the level of teaching learning.
Table 5
Teaching and Learning

Indicator	Mean Rating	Descriptive Equivalent
1. I carefully consider how, when and why to use digital technologies in class, to ensure that they are used with added value.	3.64	Very High
2. I monitor learners' behavior and engagement in the collaborative digital environments I use.	3.58	Very High

3.	When my students work in groups or teams, they use digital technologies to generate and document evidence.	3.34	High
4.	I use digital technologies to allow learners to monitor their learning themselves.	3.20	High
	Overall	**3.44**	**High**

Table 5 shows the level of teaching and learning. The result displays an overall mean of 3.44 described as high. Among four indicators, it reveals from the highest mean is the statement "I carefully consider how, when and why to use digital technologies in class, to ensure that they are used with added value which garners 3.64 described as very high. The lowest mean is obtained in the statement "I use digital technologies to allow learners to monitor their learning themselves." that gets 3.4 described as high.

Table 6
Assessment

	Indicator	Mean Rating	Descriptive Equivalent
1.	I use digital assessment formats to monitor student progress.	3.38	Very High
2.	I reflect on the digital and non-digital evidence I have on learners' behavior and progress to better understand individual problems.	3.38	Very High
3.	I use digital technologies to provide effective feedback and help students understand their learning needs	3.38	High
	Overall	**3.38**	**High**

Table 6 indicates the level of assessment. The result displayed an overall mean of 3.38 or high. Among three pointers, it reveals means obtained in all statements "I use digital assessment formats to monitor student progress." "I reflect on the digital and non-digital evidence I have on learners' behavior and progress to better understand individual problems." and "I use digital technologies to provide effective feedback and help students understand their learning needs." All items have a mean 3.40 or very high.

Table 7 indicated the level of Empowering Learners. The result shows an overall mean of 3.40 described as high. Among three indicators, it reveals that the highest mean obtained in the statement "I use digital technologies to more actively involve learners." which garnered a mean 3.47 described as very high.

Table 7
Empowering Learners

	Indicator	Mean Rating	Descriptive Equivalent
1.	When I create digital assignments for learners I consider and address problems, they may have with the digital format	3.26	High
2.	I use digital technologies to provide my students with personalized learning opportunities.	3.34	High
3.	I use digital technologies to more actively involve learners.	3.47	Very High
	Overall	**3.35**	**High**

The lowest mean of 3.26 is obtained in the statement "When I create digital assignments for learners I consider and address problems, they may have with the digital format" and "When I create digital assignments for learners I consider and address problems, they may have with the digital format." that described as high.

Table 8
Facilitating Learners' Digital Competence

Indicator	Mean Rating	Descriptive Equivalent
1. I teach learners how to check if information is reliable and to identify fake news.	3.69	Very High
2. I set up assignments which require learners to use digital means to communicate with each other or with an outside audience.	3.17	High
3. I set up assignments which require learners to create digital content.	3.08	High
4. I teach learners how to behave safely and responsibly online.	3.69	Very High
5. I encourage learners to use digital technologies creatively to solve concrete problems.	3.46	Very High
Overall	**3.41**	**High**

Table 8 indicates the level of facilitating learners' digital competence. The result displays an overall mean of 3.41 or high. Between five pointers, it reveals the highest mean obtained in both statements "I teach learners how to check if information is reliable and to identify fake news" and "I teach learners how to behave safely and responsibly online." which earns a mean 3.69 described as very high. The lowest mean is obtained in the statement "I set up assignments which require learners to create digital content." that gets 3.08 described as high.

Table 9
Levels of Learners' Engagement

Indicator	Mean Rating	Descriptive Equivalent
Cognitive Dimension	3.34	High
Affective Dimension	3.54	Very High
Behavioral Dimension	3.43	High
Overall	**3.44**	**High**

Shown in Table 9 is the level of learners' engagement. The overall mean gains on the learners' engagement is 3.44 described as high. This means that the learners' engagement is mostly observed by public elementary schools. Precisely, the mean rating of the learners' engagement is disclosed among three indicators: first, affective dimension gains a mean rating of 3.54 labeled as very high; second, behavioral dimension that garners a mean rating of 3.43 described as high; and lastly, cognitive dimension that holds a mean rating of 3.34 described as high.

Table 10 shows the level of cognitive dimension. The result displays an overall mean of 3.41 or high. Along with six pointers, it reveals the highest mean obtained in

Table 10
Cognitive Dimension

Indicator	Mean Rating	Descriptive Equivalent
1. My pupils pay attention in my class	3.57	Very High
2. My pupils form a new understanding from various pieces of information	3.34	High

Indicator	Mean	Descriptive
3. My pupils find ways of applying what they are learning in class to something else in their life.	3.34	High
4. My pupils evaluate the opinion discussed in the classroom	3.36	High
5. My pupils memorize important course notes after the discussion.	3.18	High
6. My pupils summarize what they have learned in class.	3.27	High
Overall	**3.34**	**High**

the statement "My pupils pay attention in my class" which earned a mean 3.57 or very high. The lowest mean of 3.18 is obtained in the assertion "My pupils memorize important course notes after the discussion." Which is described as high.

Table 11
Affective Dimension

Indicator	Mean Rating	Descriptive Equivalent
1. My pupils feel energized by the ideas that they are learning in most of their classes.	3.50	Very High
2. My pupils feel that interaction with my classmates helps me to understand better.	3.52	Very High
3. My pupils feel excited about the activities that they experience in the classroom.	3.63	Very High
4. My pupils realize that they have learned something that changed the way they understand a concept.	3.53	Very High
5. My pupils feel fascinated by the lesson content.	3.47	Very High
6. My pupils feel that they are an important member of their learning team.	3.56	Very High
Overall	**3.54**	**Very High**

Table 11 indicates the level of academic effort. The result presents an overall mean of 3.54 or very high. It further reveals all statements gets scored very high descriptive interpretations, however in single capacity the highest mean is obtained in the three statements as follows "My pupils feel that they are an important member of their learning team." and "My pupils feel excited about the activities that they experience in the classroom" which earned a mean 3.63 described as very high. The lowest mean is obtained in the statements, "My pupils feel fascinated by the lesson content." that got a mean of 3.47 but still described as very high.

Table 12
Behavioral Dimension

Indicator	Mean Rating	Descriptive Equivalent
1. My pupils take advantage of available learning resources other than what their teachers have provided.	3.23	Very High
2. My pupils identify key information from reading assignments, videos and PowerPoint teacher slides.	3.42	High

3.	My pupils watch videos suggested by their teachers.	3.42	High
4.	My pupils always complete the task given by the teacher in class during lessons	3.44	High
5.	My pupils regularly participate in class discussions in most of their classes	3.56	High
6.	My pupils ask their questions during class if they do not understand	3.39	High
	Overall	**3.43**	**High**

Table 12 shows the level behavioral dimension. The result displays an overall mean of 3.43 or high. Along with six statements, it reveals the highest mean in the statement "My pupils regularly participate in class discussions in most of their classes" which earns a mean 3.56 described as very high. The lowest mean is obtained in the assertion "My pupils take advantage of available learning resources other than what their teachers have provided" that get 3.2 described as high.

Table 13 displayed the result of the test of the relationship between teachers' digital competence and learners' engagement. Pearson's r value of .513 and a *p* value less than 0.001. This means that there is a significant moderate association between teachers' digital competence and learners' engagement.

Table 13
Relationship Between Teachers' Digital Competence
and Learners' Engagement

		Teachers' Digital Competence	Learners' Engagement
Teachers' Digital Competence	*Pearson's r*	—	0.513
	p-value	—	$< .001$
Learners' Engagement	*Pearson's r*	0.513	—
	p-value	$< .001$	—

IV. DISCUSSIONS AND CONCLUSION

This chapter presents the discussions of the results, conclusions and recommendations of the study.

Discussions
Level of Teachers' Digital Competence. The teachers' digital competence is high. This means that teachers' digital competence is mostly observed. This means that the attributes of teachers' digital competence were displayed most of the times. This implied that the teachers are using different digital communication channels for various purposes and effectively protected sensitive content. They carefully consider how, when, and why to use digital technologies in class to ensure that they are used with added value and monitor learners' behavior and engagement in the collaborative digital environments they are using. They used digital assessment formats to monitor student progress and reflect on the digital and non-digital indication they observed on learners' behavior and progress to better understand individual problems. Also, use digital technologies to provide effective feedback and help students understand their learning needs. Furthermore, they used digital technologies to more actively involve learners and teach them how to check if information is reliable and to identify fake news.
This study findings exhibit improvement in teachers' digital competence which categorized as high compared to the low to moderate level based on study findings Basilotta-Gómez-Pablos et al. (2022). While Althubyani (2024) found moderate level of teachers' digital competence.

Subsequently, the study findings were consonance to Krupa (2025) that the teachers today are utilizing diverse digital communication platforms for distinct reasons while safeguarding sensitive information successfully. They meticulously evaluate the methods, timing, and rationale for employing digital technologies in the classroom to guarantee their value addition, while also monitoring students' behavior and involvement inside the collaborative digital environments utilized (Haleem et al., 2022).

They utilized digital assessment formats to track student development and analyze both digital and non-digital evidence of learners' behavior and advancement to gain a clearer understanding of specific issues (Grosseck et al., 2023). Additionally, they employed digital technology to deliver constructive feedback and assist pupils in comprehending their learning needs and used digital tools to engage learners more actively and instruct them on verifying the reliability of information and recognizing misinformation (Beardsley et al., 2021).

Level of Learners' Engagement. The learners' engagement described as high. This means that the learners' engagement is mostly observed in public elementary schools. This suggests that teachers observed the learners paying attention during class. They evaluate the opinion discussed in the classroom and feel that they are an important member of their learning team. They feel excited about the activities that they experience in the classroom. The learners feel energized by the ideas they are learning in most of their classes. The pupils feel that their interaction with their classmates helps them understand better. Lastly, they regularly participate in class discussions in most of their classes.

The results support the findings of Agregado and Gaitano (2024) that the learners' engagement of Filipino students was high. This suggests that learners are most engaged in public elementary schools. This shows that teachers noticed students paying attention in class (Hafez, 2023). The learners consider the opinions expressed in class and believe they are a vital component of their learning team (Amerstorfer et al., 2021). They are interested about the activities that take place in the classroom. The concepts taught in most of their classes energize the students. The students believe that their interactions with their classmates help them understand more. Finally, they actively participate in class discussions in most of their classes (Shin et al., 2021).

Relationship Between Teachers' Digital Competence and Learners' Engagement. Table 4 displayed the result of the test of the relationship between teachers' digital competence and learners' engagement. It was revealed that there is a significant moderate relationship between teachers' digital competence and learners' engagement. This implies that if the teachers' digital competence increases the level of learners' engagement also increases and vice versa. Therefore, the null hypothesis is rejected. This corroborated the findings of Powers et al. (2015) who stressed out the positive connection between the digital capability of the teachers and learners' interest and engagement on the lessons. The results of this study also congruent to with the findings of Torres et al. (2023) that ICT capability of the teachers in the classroom helped create an engaging environment among learners. The results further supported the notion that teachers' competency and ICT resources have positive effects on both academic performance and learners' engagement by Hanaysha, et al., (2023).

Conclusion: The high level of teachers' digital competence presumed that the Maragusan West District teachers were highly exposed to digital instruments, trained for innovations and totally aware how to exploit digital resources to improve learners' engagement in the classroom. Based on the data gathered there were indicators exhibited among teachers in the district. However, this result also concluded that there were still teachers that need to develop digital skills. It is concluded that the current teaching-learning process promotes engagement among learners in public elementary schools in the west district of Maragusan. Further, the result shows that teacher competency is critical in creating an effective learning environment correlates pupil engagement and learning. When teachers have good digital competency, they may create a highly engaging learning environment. This means that students will actively participate in the teaching-learning process. High teachers' digital competency has a significant impact on their ability to construct learning experiences, which goes a long way toward increasing students' cognitive and behavioral engagement.

Recommendations: Considering the research findings, the researcher recommends the Department of Education to develop and carry out policies and initiatives that explicitly articulate the importance of teachers' digital competence, potentially by training workshops that will enhance the capability of teachers in the integration of digital literacy and upgrading skills in using productivity tools. Allocating sufficient resources from the national budget for ICT materials, infrastructure, and professional development training in utilizing educational technology tools. School administrators may also use the result of this research as basis for school programs that will maintain or further enhance the teachers' digital competence and learners' engagement. Provision of school internet access through MOOE to empower teachers to keep searching, innovating and creating. Support professional development and lifelong learning for teachers through enrollment to online courses and graduate schools. Keep teachers updated through Learning Action Cell on the current trend of ICT in education. Further, the researcher recommends the use of Technology-Enhanced Learning. This can be done through Gamified Learning Platforms such as: thatquiz.org, Kahoot.it, Minecraft Education and some other online and offline educational games. With these,

learners will become more motivated to learn new skills and insights. Thus, parents are also encouraged to provide their children with the necessary technological gadgets to be used by them in exploring and learning. However, guidance from teachers and parents still necessary. The results of the study may provide a reference for researchers for additional research. It is prudent to corroborate the findings of this study with a broader spectrum of participants or contexts. They may also examine supplementary variables, methodologies, and instruments to enhance the comprehension of the fundamental elements and processes associated with educators' digital competency and students' engagement. This investigation will provide a robust basis for the development of educational policies and initiatives aimed at enhancing student learning outcomes.

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