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ICT Integration and Classroom Management Practices as Predictors of Learners' Engagement

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ABSTRACT : The study aimed to determine the levels of ICT integration and classroom management practices and learners' engagement; relationship between ICT integration and learners' engagement; the relationship between classroom management practices and learners' engagement; the influence ICT integration and classroom management practices on learners' engagement 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' ICT integration in terms of access and availability of ICT tools, teachers' competence in ICT Integration, instructional use of ICT and attitudes toward ICT Integration. A very high classroom management practices in terms of establishing classroom rules and procedures, time management, classroom environment, behavior management and instructional strategies and involvement. A very high level of learners' engagement in terms of cognitive engagement, affective engagement and behavioral engagement. Moreover, the findings displayed that there was a moderate relationship between ICT integration and learners' engagement. Also, the findings show that there was a strong relationship between classroom management practices and learners' engagement in public elementary schools. A significant influence of ICT integration and classroom management practices on learners' engagement was manifested. 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 ICT integration and classroom management practices 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: Learner engagement refers to the level of students' active participation, involvement, and interest in the learning process. It is considered a crucial factor in achieving meaningful learning outcomes and improving academic performance. Classroom teachers exert much effort in ensuring the facilitation of engaging activities to maximize learning. Study findings suggest a positive relationship between student engagement and academic performance (Sahni, 2023). Substantial academic literature highlights that learner engagement is essential for students' success; however, the factors that influence engagement remain poorly understood. According to prior research, classroom environment and school facilities are vital for improving students' engagement. Also, findings revealed a significant relationship between teachers' digital competence and learners' engagement in public elementary schools. Learner disengagement is an idea that captures the gradual behavioral, affective, and cognitive distancing from class activities and is thus an early indicator of students being at risk for dropout (Glaesser et al., 2024). In United State of America (USA) the national data on student disengagement show a pervasive trend that

Currently makes this phenomenon one of the biggest challenges faced by teachers worldwide. Much research on student disengagement examines the problem through an indirect framework in which deficiencies in positive social conditions or psychological states are tested as predictors of disengagement (Adigun et al., 2023). In the Philippine context, poor levels of student engagement pose challenges to institutions, teachers and students. Evidence showed the shortcoming trend in student engagement and academic performance of the students. Many teachers, parents and experts expressed their concern about poor engagement and performance in school (Quines & Relacion, 2022). Ineffective classroom management techniques and an unfavorable school climate are commonly associated with the problem of low student engagement. Traditional classroom management techniques frequently fail to promote true engagement, favoring compliance overactive participation, according to a study by Eakins et al. (2022).

In the local setting, despite the effort made by the Department of Education and school authorities to alleviate the poor academic performance among core subjects, still the effort seems to be in vain. The alarming position of the Philippines in the PISA ranking sends the schools an awakening message to look up to. The district coordinating principal of Maragusan West emphasized that our current learners were far different from previous years. Little is known about how organized environments and student interaction interact, especially in Philippine schools (Cambay & Paglinawan, 2024). Thus, our approaches to engage them in the learning process need to be evaluated. Training and upskilling of teachers with 21st century skills especially in technological integration in the class instructions were strengthened. Classroom management practices of teachers were supervised and monitored. These endeavors should be assessed to generalize its impact on the engagement of the learners in the class.

Review Of Related Literature And Studies : An academic literature review aims to identify relevant and appropriate scholarly resources that support a study's argument. The subsequent literature and research provide additional elucidations regarding the findings of this study. A comprehensive array of significant outcomes, perspectives, and issues from diverse authors is presented to facilitate a thorough comprehension of the study's findings.

ICT Integration. Establishing a quality-centered educational approach prioritizes students' academic progress through competence-based instruction. Therefore, utilizing ICT technologies as teaching-learning strategies is a key goal in achieving academic success and the ability to provide students with a variety of educational experiences. From the standpoint of the comparative measurement of the impact on the exams, which is the outcome of the formative assessment, this study assesses the learning environment where a successful and practical integration of ICT tools is expected in the teaching and learning process (Akram et al., 2022). According to the findings, there are statistically significant differences between the experimental and control groups. ICT is a valuable tool for enhancing performance and fostering involvement, and they can help students achieve their goals (Toma et al., 2023). Students today are more comfortable using electronic devices. Therefore, we need to start using technology in creative ways to make it less dull (Lee, 2022). ICT-based teaching has the potential to transform the academic field. It is an approach to learning that is dynamic. Compared to the conventional blackboard and chalk learning method, it offers additional advantages. For students, the entire educational process can occasionally seem tiresome. ICT use in the classroom is crucial in this digital age to provide students with the chance to Acquire and employ the necessary 21st century skills. Teachers can thus overcome the barriers and become proficient technology users by researching the problems and difficulties

Associated with ICT use in teaching and learning. Since the introduction of information and communications technologies (ICT) into the classroom, educators have developed their own opinions regarding the usefulness of ICT as a teaching aid, its impact on student learning outcomes, and their own competence and self-assurance. ICT integration in teaching and learning is fraught with difficulties. Lack of money, time, access, and technical help are examples of extrinsic challenges that teachers must overcome (Kaur, 2023).According to Jean Piaget's theory of cognitive development, the results demonstrate that ICT integration is highly effective for both teachers and pupils. Furthermore, it was discovered that one of the most important elements of a good teaching and learning process is the teacher's ongoing ICT education. Future research must consider and examine how classroom policies are implemented as well as how students use technology strategically (Kilag et al., 2022).Teachers will benefit from the global need to replace conventional teaching techniques with technology-based teaching and learning resources and facilities related to the integration of information, communication, and technology (ICT). According to a Malaysian study, teachers' opinions on how well ICT integration supports the teaching and learning process in the classroom need to be examined. The findings show that both teachers and students benefit greatly from ICT integration. The results show that one of the key elements in the effectiveness of technology-based teaching and learning is teachers' adequate preparation with ICT resources and facilities. It was also discovered that teacher professional development training programs were crucial in raising the caliber of learning for children (Jadhav et al., 2022).

Further, a major factor in simplifying and improving the learning process is the use of technology in preschool instruction. It was discovered that teachers used ICT extensively. It was found that the usage of ICT significantly benefited the instructors taking part in the training, as measured by the variable of teachers' engagement in in-service training. It was shown that participants benefited from allowing children to use ICT, using ICT in the classroom, providing ICT training to children, online apps, and coding studies to promote the fundamental ICT abilities. It was discovered that the participants used activities, information sharing, attention-grabbing, and role modeling to help the kids build good attitudes toward ICT. It was discovered that the participants prepared exercises, presented visual materials, saw films, and used internet tools as part of the educational process (Öngören, 2022).

A study engaging quantitative technique to assess the degree of attitude toward ICT among the secondary school students involved in the study as well as the efficacy of ICT use in the teaching-learning process. The results, a student's performance is one of the most significant factors influencing their success in a variety of disciplines and industries. The strong conviction that technology may enhance student academic performance by facilitating more effective and efficient ICT integration into the teaching-learning process for students served as justification for large investments (Kilag et al., 2023) A peer-reviewed study on how ICT instruments are incorporated into secondary education. Based on 51 selected research, it examined how ICT integration affects the teaching and learning process. The benefits of enhancing teaching and learning procedures in terms of curriculum coverage, equal access, shared learning resources, and individualized learning are the subject of a thematic presentation of the findings. In addition, issues with resource maintenance, pedagogical and technological expertise, and professional growth were identified (Msafiri et al., 2023). Accordingly, the results of research on teacher competency emphasize the use of ICT in lesson plans as a situation-specific ability of teachers, which is predicted by their knowledge and beliefs and predicts their observable performance in the classroom. Additionally, intervention studies provide insight into how learning opportunities in both initial teacher Education and professional development affect the way ICT is integrated into lesson plans

(Koenig et al., 2024). The first indicator of ICT Integration is the Access and Availability of ICT Tools. The goal of the Philippines' Department of Education Computerization Program is to provide public schools with cutting-edge technology that will improve teaching and learning and enable them to better handle 21st-century challenges (Gamit, 2023). According to the findings on ICT use, both teachers and students in elementary schools have made use of ICT. When implementing ICT in elementary schools, educators must be mindful of the ICT abilities that elementary school instructors need to possess. In primary classrooms, teachers use this ICT as a resource and a teaching tool (Nindya & Dafit, 2022). Significant positive connections were found between the stages of instructors' adoption of ICT use and the characteristics of will, skill, tool, and pedagogy. The components' predictive power showed that Wolfram Symbolic Transfer Protocol accounted for 21% of the variance in ICT adoption. Additionally, the findings showed that the best predictor of ICT integration was Tool. According to the report, senior high schools in Ghana should prioritize expanding access to ICT tools if math teachers are to successfully incorporate ICT into their lessons (Sawyerr Agyei, 2023). Hence, the researchers recommended that more government expenditure must be allocated to infrastructures that would improve the use of ICT as well as frequent ICT training must be undertaken to enrich teachers' knowledge in the affordance of using ICT in mathematics classrooms (Bandoh, et al., 2024).

Another term used for the twenty-first century is the digital age. To improve the effectiveness of the teaching and learning process, a variety of information and communication technology devices are available (Hafeez, 2021). A research finding, using ICT as a teaching tool in primary schools, improves children' academic performance and can pique their curiosity. ICT use also makes learning more flexible and efficient, which raises educational standards. There are obstacles, nevertheless, such as inadequate infrastructure and unprepared teachers. However, there is a lot of promises for improving educational quality using ICT in elementary schools. As a result, initiatives are required to increase access to ICT use in education (Jamun et al., 2023). Students at a local educational institution in Central Luzon, Philippines, participated in a survey. A modified questionnaire was employed in the study, and basic statistical analysis was performed on the collected data. According to the survey's findings, 70% of pupils have access to the internet at home. On the other hand, the most popular learning tool available to pupils is the smartphone (Asio et al., 2021).

The second indicator of ICT Integration is the Teachers' Competence in ICT Integration. The use of ICT by teachers in the classroom is becoming increasingly significant; at this point, technology is a necessary component of teaching. Even though teachers' competences are crucial for ICT applications, empirical literature has revealed a significant research gap. The findings showed a mean of 4.279 and a Spearman correlation of 0.618 between the usage of software tools and teachers' competences, suggesting that the more teachers utilize and apply software tools in their instruction, the more competent they become. The conclusion was that there is significant evidence that teachers' competencies significantly influence ICT implementation (Bariu et al., 2022).These days, having digital abilities is becoming a prerequisite for instructors due to the demand for technical literacy. Teachers will find it easier to choose and assess appropriate materials and instructional media for use in teaching activities if they possess the necessary digital skills. This section addresses the use of digital Skills, which are highlighted by teachers' familiarity with the fundamentals of ICT. The digital abilities that educators require will be directly determined by defining the core of teaching. The primary goals of teaching are to deliver, enhance, remediate, and track students' learning. As a result, educators should be proficient in several critical skills, including word processing, information management, electronic network usage, and material presentation and Delivery (Machmud & Fakhri, 2021).According to Gutiérrez-Martín et al. (2022), teachers'

Assessments of their ICT and media skills and the value they place on them in teacher preparation are discussed in a paper. The results show that teachers have a low self-perceived level of competence and that this level is consistently lower than the value placed on the corresponding competence. MIL competencies are given more weight than instructors' ICT competencies, which calls into question the propensity to give technological and didactic training precedence over media education training. A worldwide model of teacher competences in media and ICT (COMPROMETIC) that combines MIL competencies with those of ICT teachers is suggested, and it closes by highlighting the necessity of a paradigm change towards convergence in teacher training policies for the digital era.

The third indicator of ICT Integration is the Instructional Use of ICT. The accelerating pace of technical advancement in all human endeavors has led to a rapid increase in the demand for information, communication, and technology acquisition. The findings show that mathematics facilitators' intentions toward ICT adoption were positively and significantly impacted by performance expectancy and effort expectancy. Furthermore, although social influence was important, it had a detrimental effect on the facilitators' goals. Facilitators' ICT use behavior was positively and significantly predicted by their intention to utilize it as well as by the enabling conditions (FCs) in the classroom. The results showed that FCs were a more accurate indicator of math teachers' ICT use behavior than intention (Bandoh, et al., 2024).A study modeled the characteristics that influence math teachers' successful use of ICT in the classroom. According to the findings, secondary school math teachers' use of ICT in the classroom was substantially predicted by their access to it, their desire for it, their attitude toward it, and their level of self-efficacy. More specifically, the connection between teachers' use of ICT facilities in mathematics instruction and their access to ICT resources was significantly mediated by their ICT attitude. Based on the results, suggestions were made. The results suggest that all levels of government might recognize the need to improve teachers' ICT self-efficacy, motivation, and attitude as well as to provide ICT facilities in schools (Ogbu, 2025).

Additionally, it was determined that the instructors' inclination to use ICT was most influenced by their perception of its utility. Statistical evidence supported the strong impact of usage training as compared to the original TAM constructs used in this investigation. Additionally, the study's findings show that the intention of math facilitators to use ICT is not solely based on PEU, PU, and ATU; rather, it is encouraged by educational culture to train their teaching staff to become more proficient and capable of using the instructional technology for academic purposes (Lotey et al., 2023).Lastly, the third indicator of ICT Integration is the Attitudes Toward ICT Integration. Due to the extensive use of information and communication technologies (ICTs) in the classroom, educators must possess strong digital skills and a positive outlook in order to effectively manage their classrooms (Nguyen et al., 2022). In this context, all teachers should learn 21st-century competency, a paradigm introduced by the European Framework for the Digital competency of Educators (DigCompEdu). Therefore, the goal of this explanatory study is to advance the literature by examining how university instructors' perspectives regarding ICT integration are influenced by their 21st-century digital competency. To do this, 350 Iranian university instructors who used ICTs in their classrooms were given a questionnaire. The findings of the partial least Squares analysis (PLS-SEM) show a strong correlation between the three antecedents of behavioral intention and actual behavior for using ICTs and the information and data literacy, digital content creation, communication and collaboration, and problem-solving abilities of university instructors (Rahimi & Tafazoli, 2022).The technical, pedagogical, and content knowledge (TPACK) and attitudes of primary mathematics teachers concerning the integration of information and communication technology (ICT) in mainland China during the

Post-pandemic period were then examined in a study. The results showed that while the majority of math teachers lacked technology-related knowledge, they have sufficient non-technological understanding. However, after witnessing extensive online instruction, they were open to integrating digital technologies into their instruction. Teaching experience had a positive correlation with TPACK, but there were no discernible differences in TPACK by gender or teaching grade (Li, 2023).

A study examined qualitative articles that examined how educators view the usage of technology in the classroom. The synthesis showed that teacher opinions are influenced by both local contexts and worldwide educational trends. The importance of teacher professional development programs is emphasized, as are the contextual factors affecting teachers' opinions toward the use of ICT in the classroom. The results of the review are integrated to investigate recommendations for additional research (Abel et al., 2022).

Classroom Management Practices. Classroom management is a central aspect of effective teaching. It is related to student motivation and learning achievement (Junker, Gold & Holodynski, 2021). One important aspect of teaching success is the proactive and reactive classroom management practices used by teachers. To create a supportive learning atmosphere in the classroom, educators must learn these techniques. Equally important are teachers' self-efficacy attitudes about their classroom management techniques. According to the findings, proactive classroom management techniques are preferred by EFL teachers over reactive ones. Additionally, the effective classroom management techniques of inexperienced and seasoned teachers differed, with the former finding proactive techniques to be more successful. The results also showed that proactive classroom management techniques are hampered by four different kinds of barriers (Alasmari & Althaqafi, 2024).

A multifaceted concept, student engagement is impacted by intricate classroom, school, and student factors. Few studies have taken a multilevel strategy to concurrently include observational measures of classroom practices with student and school characteristics, even though previous research has looked at a variety of aspects of student engagement. The findings showed a positive and substantial correlation between student reports of active participation in the same classroom, and the observed usage of positive behavior supports by teachers. Consideration is given to the implications of enhancing teachers' classroom management techniques to encourage student participation (Larson et al., 2021).This study intends to ascertain how teachers and students view the importance of classroom management in encouraging students to learn English, as well as the methods they use in the classroom and the degree to which their methods influence students' academic performance and motivation to learn the language. The results demonstrated that every classroom management style had an effect on students' willingness to study English at varying degrees and in various ways. Surprisingly, pupils' academic performance and enthusiasm to study English were positively impacted by authoritative manner the most (Alasmari & Althaqafi, 2024).

Shank and Santiague (2022) stressed out that classroom management study has been conducted for decades, but it has not thoroughly examined the factors that make new teachers feel unprepared to oversee classes. Teachers expressed a lack of clarity on classroom management procedures and asked for more help and clear expectations. To evaluate classroom management needs, the qualitative descriptive case study analyzed transcripts and course descriptions in addition to interviewing eight new teachers from the California Bay Area. The results showed that there was little evidence-based classroom management training, inadequate preparedness for behavioral difficulties, and a lack of practical alternatives.The first indicator of classroom management practice is the Establishing Classroom Rules and Procedures. This refers to the guidelines in the classroom are regularly

Enforced, and teachers clearly explain expectations and guidelines to my students. They include students in establishing rules for the classroom. They set up procedures that aid in keeping the classroom in order. Their pupils are aware of the repercussions of disobeying the regulations (Burden, 2025). Building relationships, providing and organizing classroom materials, setting classroom rules, and ensuring that children feel safe and cared for in the classroom were found to have an impact on student learning (Barksdale et al., 2021). Strong evidence from school-level research indicates that kids' health, happiness, and cognitive performance are positively correlated with a positive school atmosphere (Aldridge & Blackstock, 2024). Additionally, the UNCRPD's dedication to equitable educational opportunity is reflected in inclusive education, which is the practice of incorporating people with disabilities into a regular classroom. It highlights how crucial it is to value diversity and encourage acceptance of students with disabilities. It emphasizes the need to understand how to integrate kids with disabilities into regular classrooms and the advantages that inclusive education offers to both students with and without disabilities. This study concluded by highlighting the transformative power of inclusive education in creating a classroom environment that values diversity, empathy, and acceptance while also advancing kids' general growth (Jardinez & Natividad, 2024).

Teachers' attitudes and how they manage their classrooms have a big impact on how well kids do in school and how they behave (Kahveci, 2023). This is a big part of the ongoing problem of racial inequities in school punishment. Finding and enhancing classroom management on a large scale is hard, though, because the methods we have now need professionals to watch the classrooms, which costs a lot of money. Classrooms with a larger number of Black kids must deal with more strict and frequent classroom management. During observations, the language used to manage classes becomes more frequent and harsher with time. This is especially true for classrooms with more Black children. The findings illustrate the efficacy of automated measures and identify routine classroom management interactions as a pivotal arena for intervention to mitigate racial inequities, avert escalation, and diminish punitive attitudes (Tan & Demszky, 2023).

The second indicator of classroom management practice is Time Management. The findings indicate that high-achieving students efficiently utilized their study time and implemented learning strategies mostly associated with formative and summative assessment activities. The pupils in the low-performing group used fewer different ways to learn and mostly only watched videos (Raković et al., 2023). The teachers' time management skills influenced how well they taught. The results showed that teachers were mostly very good at their jobs. They spent the most time in the classroom, and their time management strategies included using the internet to help them teach, making a list of important tasks for the day, planning of time, and working extra hours at home to finish tasks. They were least likely to delegate work to others. Moreover, the results of this study indicated that the teachers' time management practices did not affect their teaching performance ratings. It might be the case because most teachers got very good ratings (Olivo, 2021). Everyone needs to know how to manage their time in the 21st century. To be empowered through the learning process, including problem-based learning in the classroom, you need to know how to manage your time. A study that sought to create student worksheets during lectures on developing biology learning resources and examined their effects. It demonstrated that the implementation of problem-based worksheets enhanced students' creative scores and their time management abilities. Also showed that there was a strong and favorable link between creativity and how well students could manage their study time (Primandiri & Santoso, 2022).The third indicator of classroom management practice is Classroom Environment. Students' academic engagement and achievement are greatly impacted by the classroom environment, which includes a variety of components such

The physical layout, teacher-student interactions, instructional resources, and general mood (Emmasiegbu, 2022). Furthermore, improving teaching methods, pedagogical approaches, and classroom management abilities all depend heavily on teacher professional development (Watene, 2020). Teachers can better meet the varied requirements of their students and establish more favorable learning environments by consistently improving their skills and expertise (Ahmad et al., 2024). The environment of the classroom is very important for how children learn and what they learn. Research indicates that the classroom environment, encompassing elements such as physical space, teacher-student interactions, and pedagogical approaches, profoundly influences student learning (Çağırgan & Soytürk, 2021). Research has examined diverse facets of the classroom environment, including the implementation of project-based mathematics to improve educational outcomes (Rijken & Fraser, 2024), metaphorical interpretations of teacher candidates regarding the mathematics course and its correlation with the school and classroom setting, as well as the application of silent sitting and visualization techniques as mindfulness strategies for fostering awareness in the classroom (Parahakaran, 2021).

A study explored how teachers in Anambra State's public senior secondary schools handled classroom management. The results showed that teachers in Anambra State's public senior secondary schools have a good level of awareness regarding different classroom management techniques. The survey found that instructors in Anambra State's public secondary schools are knowledgeable about a variety of methods and approaches to maintain control and management in the classroom. Therefore, among other things, the study suggested that secondary school teachers implement and make use of various classroom management strategies and approaches to maintain classroom order and improve students' academic performance (Nwachukwu & Uzokife, 2022).

The fourth indicator of classroom management practice is Behavior Management. A large, diverse sample of middle school children in an urban setting participated in a cluster randomized controlled trial to assess the effectiveness of the CHAMPS classroom management program on their academic and social behavioral outcomes. The results showed that CHAMPS (Conversation, Help, Activity, Movement, Participation, Success) enhanced instructor assessments of students' difficulties focusing and finishing classwork, as well as student time-on-task and scores on academic achievement tests and general English and math problem-solving assessments. Reading comprehension, general math achievement, prosocial and disruptive behaviors, and self-regulation abilities all showed null impacts (Herman et al., 2022).Successful classroom behavior management is based on competent communication skills. Classroom behavior management is effective if the teacher can be proactive and student-centered.

There is limited empirical evidence to back up student-centered communication approaches in behavior management. The findings of the current study Highlight the importance of skilled communication techniques in behavior management and provide interesting information for refining teacher practice. By implementing these student-centered communication strategies, teachers will have better control of the classroom, create, improved and more productive learning environment and help students achieve enhanced learning outcomes (Karasova & Nehyba, 2023). The fifth indicator of classroom management practice is Instructional Strategies and Involvement. To increase pupil engagement in class, teachers' instructional strategies were essential (Egbe & Osuji, 2025). It was also found that different teachers employ various teaching strategies to guarantee student participation in class. Instructors use a range of tactics to increase student involvement in the classroom. According to recent studies, teachers who are kind and supportive have greater success than Those who concentrate on difficult situations and subject-matter expertise. The results also revealed that

While students engage in class discussions, they don't always try to start conversations. Furthermore, the study concluded that since teachers' methods of instruction have a positive effect on students' participation in class, university instructors' innovative methods of instruction may maximize student participation, which in turn results in outstanding academic performance for students (Afzal & Rafiq, 2022).The fundamental classroom and educational practices that enable all students to be reached and support their achievement. Along with the difficulties that still exist in the inclusion procedures, particularly regarding assistance and curriculum, the systemic supports and tactics that guarantee that all students may participate, learn, and be a part of the class community are also discussed (Simón et al., 2021). To create meaningful learning experiences and effective teaching practices, teacher engagement in curriculum creation is essential. Less instructor involvement in curriculum design, however, frequently leads to less interesting and relevant teaching methods, which may have an effect on student learning outcomes. The results showed that student learning outcomes and teacher participation in curriculum development were significantly positively correlated. Students' academic performance and engagement increased when teachers actively participated in creating curriculum parts that were suited to their requirements. They also showed more effectiveness in delivering instruction (Kusmawan et al., 2025).

Learners' Engagement. The engagement of learners in class continues to be a crucial component of their achievement (Gute & Wainman, 2019). According to the article, engagement is the degree to which a student actively participates in a learning activity. Rogerson and Nepal (2020) incorporate the readiness or degree of student involvement and participation in typical academic, social, and community activities for students at their school. Learner engagement is said to be a fundamental causal component in the overall accomplishment of students enrolled in higher education (Derakhshan, 2021). It is widely acknowledged that students who actively engage in their academic education and show interest in studying are more likely to attain higher learning levels (Wang et al., 2022).

From a psychological perspective, engaging students in the classroom and motivating them are closely related. However, engagement involves behaviors that are visible to others and make it difficult to identify and gauge students' motivation, whereas motivation is made up of psychological and hard-to-observe factors (Han and Wang, 2021). The Applied Model of Learner Engagement, which includes the task, individual, and contextual elements that affect a student's likelihood of being engaged with the material, is presented in a study. Drawing from this approach, we offer instructional interventions that educators may use to better engage students in the modern classroom, along with best practice recommendations for doing so with online and mobile learning tools (Carroll et al., 2021). To transform the educational experience for students, generative artificial intelligence like ChatGPT has been used in education more. The findings of recent empirical research on ChatGPT's effects on students' emotional, cognitive, and behavioral involvement are conflicting. The impact of ChatGPT-based and non-ChatGPT-based learning on student engagement was examined. In the random effects model, it discovered a medium effect size on total student engagement using ChatGPT-based learning. Furthermore, our results indicate that compared to non-ChatGPT-based learning, ChatGPT-based learning is more successful in promoting student behavior engagement (medium effective size), cognitive (large effective size), and emotional engagement (medium effective size). The results showed that ChatGPT is a useful tool for getting students interested in what they are learning (Heung & Chiu, 2025). According to Li and Xue (2023), there are two types of factors that affect student engagement: encouraging factors and hindering factors. The teacher-student relationship and partnership, students' positive emotions, positive learning behavior, positive teacher behavior, students' learning and thinking skills, the support of learning resources, students' individual and personality traits,

And teaching factors are all promoting factors. Negative student and instructor behavior, as well as a lack of environmental support, are the impediments. The first indicator of learners' engagement is cognitive dimension. It is increasingly acknowledged that learners' cognitive engagement is a more reliable predictor of their overall academic achievement and involvement. According to Barkley and Major (2020), a learner's level of investment in the learning process primarily addresses the cognitive components of engagement, which in turn fosters deeper knowledge and the development of the learner's critical thinking skills. They believe they are a valuable part of their learning team and assess the viewpoints spoken in the classroom. Furthermore, Vermeulen and Volman (2024) noted that task-specific cognitive engagement metrics are important since meaningful learning is enhanced by activities that allow for a deep relationship between prior knowledge and the new material. In addition to affective participation, there are two other important components of student engagement: cognitive engagement, which is when students are interested in learning and can use deep cognitive processes linked to self-regulation, problem-solving, and critical thinking. The application of knowledge and abilities linked to knowledge usage and regulation may be a measure that represents cognitive engagement (Li & Lajoie, 2022). This led to additional research showing that students who put cognitive effort into academic work seem to do better and stick with it.

The second indicator of learners' engagement is affective dimensions. To change students' experiences and results, the affective dimension of student engagement which extends to their emotional reactions to learning is crucial. Interesting, pleasurable, and a sense of belonging generate good emotions that may improve students' capacity for motivation and perseverance when completing academic assignments, claim Tian et al. (2021). Additionally, according to Duchesneau (2020), learning settings that provide students with emotional support from teachers and peers tend to foster higher levels of engagement, which in turn improves academic performance. This comprises affective states, attitudes, and emotional reactions that show how students interact with the course materials. The degree of engagement is shaped and significantly impacted by several fundamental characteristics, including peer support, instructor support and involvement, emotional connection to learning in school, and opinions of the importance of education (Romano et al., 2021). When examining a student's emotional involvement with academic activities and their sense of community and belonging in a learning environment, the emotional component significantly adds to the complexity of the cognitive and behavioral components of engagement. Considering this, Kovács et al.'s study from 2022 discovered that parental participation and emotional resilience were powerful Indicators of pupils' engagement.

These factors are crucial because they show how resilient a Student is in handling the emotional fallout from their performance.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. Jin et al. (2022) claim that because students' active participation behaviors affect those of their peers, systematic behavioral engagement fosters a positive learning environment. Thus, taken as a whole, these two-research highlight how important behavioral elements are to raising student performance and engagement. The activities that the students participate in in class thrill them. The concepts they are studying in most of their classes excite the students. The students believe that interacting with their peers improves their comprehension and in most of their classes, they consistently contribute to class discussions (Shin & Johnson, 2021). Beisly (2020) asserts that behavioral engagement includes active involvement, attendance, and on-task student behavior—all of which are critical predictors of academic success. Also, Zheng et al. (2020) stated that the more behaviorally engaged

Students become, the more likely they are to persevere in the face of difficulties and complete their intended tasks; consequently, they improve their overall academic performance. Han and Gutierez (2021) distinguish between two important forms of engagement in this area: passive participation, which complies with classroom norms, including behavior, and active participation, which includes asking questions and responding to discussions. Thus, this entails the high caliber of both types of involvement through exchanges between students and their teachers as well as between students and their peers.

Related Studies : Student engagement in the learning process is essential for effective teaching and learning. The findings demonstrated that the use of technology, as well as collaborative and interactive group activities, can have a favorable impact on student engagement. Participants' input before and after the introduction of group tasks and interactive activities revealed a substantial and increasing trend in answer to questions about learner engagement. The participants believed that technology, as well as interactive and collaborative activities, improved their learning experience and engagement (Ullah & Anwar, 2020). According to MR (2024), the efficient use of ICT in education transforms traditional teaching methods, increases pupil engagement, and adds significantly to academic performance. As educational systems around the world embrace digital transformation, understanding the role of ICT becomes increasingly important in creating a more inclusive, engaging, and successful learning environment.

Meanwhile, student engagement is a multidimensional concept influenced by numerous students, classroom, and school factors. The findings revealed that observed teacher use of positive behavior supports was positively and significantly related to student ratings of active involvement in the same classroom. Implications for enhancing teacher classroom management practices to increase student engagement are discussed (Larson et al., 2021). Hence, the findings of a multilevel mediation study revealed that students' shared views of connectedness and technology influenced the associations between teacher education level and student engagement. These findings add to a deeper knowledge of how to create engaging smart classroom learning environments (Wang et al., 2022).

Theoretical Framework : This study is anchored on Self-Determination Theory (SDT) introduced by Deci and Ryan (1985), which emphasizes the importance of intrinsic motivation in promoting optimal learning and engagement. According to SDT, engagement is more likely to occur when people's basic psychological needs are met, the autonomy, competence, and relatedness. Needs-based experiences A classroom-level foundation of engagement in behavior, emotion and cognition. Therefore, the ICT integration and classroom management practices can be viewed not as instructional tools, Procedures or processes but as powerful toward responding to these fundamental psychological needs and affect learners' engagement. The use of ICT enabled autonomy and competence, as it offered students opportunities to interact with technologies, be given access to information for independent study and develop skills that increased confidence to engage in learning. Conversely, good classroom management fosters relatedness and structure through providing a safe environment in which students will feel valued and guided as part of an organized learning experience. These two predictors can work in concert together to facilitate the satisfaction of the three psychological needs proposed by SDT that in turn impact upon levels of learner engagement across behavioral, emotional and cognitive engagements.This study hypothesized that there is a relationship between the level ICT integration and classroom management practices with the level of learners' engagement. When the teachers have good ICT integration and classroom management practices, they could produce a highly interactive learning Environment. This would mean that there will be active engagement of the learners during the

Teaching-learning process. High ICT integration and classroom management practices have a great bearing on their capabilities for the design of learning experience, which goes a long way to promote cognitive and behavioral engagement in learners. Figure 1 presents the two independent variables ICT Integration and classroom management practices. The ICT integration which has four indicators namely: Access and Availability of ICT Tools, Teachers' Competence in ICT Integration, Instructional Use of ICT and Attitudes Toward ICT Integration. Meanwhile, the Classroom Management Practices which has five indicators namely: Establishing Classroom Rules and Procedures, Time Management, Classroom Environment, Behavior Management and Instructional Strategies and Involvement. Also, 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).

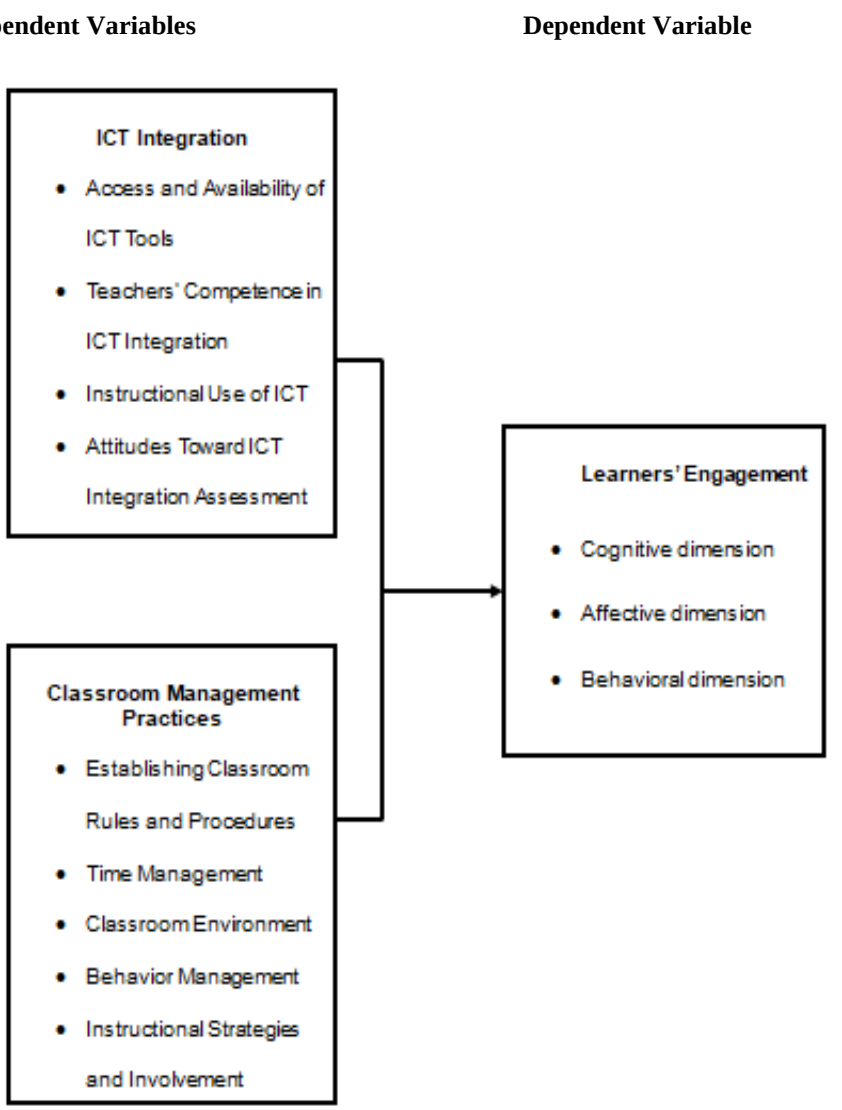

Figure 1 Conceptual Framework

Statement of the Problem : The main purpose of this study was to determine the influence ICT Integration and Classroom Management Practices on Learners' 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 ICT Integration in terms of:
1.1 Access and Availability of ICT Tools,
1.2 Teachers' Competence in ICT Integration,
1.3 Instructional Use of ICT, and
1.4 Attitudes Toward ICT Integration?

2. What is the level of the Classroom Management Practices in terms of:
2.1 Establishing Classroom Rules and Procedures,
2.2 Time Management,
2.3 Classroom Environment,
2.4 Behavior Management, and
2.5 Instructional Strategies and Involvement?

3. What is the level of the Learners' Engagement in terms of:
3.1 cognitive engagement,
3.2 affective engagement, and
3.3 behavioral engagement?

4. Is there a significant relationship between ICT Integration and the Learners' Engagement?
5. Is there a significant relationship between Classroom Management Practices and the Learners' Engagement?
6. Which domains of ICT Integration significantly predicts the Learners' Engagement?
7. Which domains of Classroom Management Practices significantly predicts the Learners' Engagement?

Null Hypothesis
The hypothesis below was tested at 0.05 level of significance.

HO_1: There is no significant relationship between ICT Integration and the Learners' Engagement.

HO_2: There is no significant relationship between Classroom Management Practices and the Learners' Engagement.

HO_3: There is no domains in ICT Integration significant predicts the learners' engagement.

HO_4: There is no domains in Classroom Management Practices significant predicts the learners' engagement.

Scope and Delimitations : This study aimed to determine the level of ICT Integration, Classroom Management Practices and the Learners Engagement and the relationship between ICT Integration and the Learners Engagement, Classroom Management Practices and the Learners Engagement and the influence of ICT Integration and Classroom Management Practices on the Learners Engagement. The study was conducted in 10 public elementary schools of Maragusan West District, Division of Davao de Oro for school year 2025-2026. An

Adapted survey questionnaire will be used to gather the essential data from the 184 teacher-respondents.

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 engaged in the learning process. While acknowledging that participation is vital in the learning process.

Teachers. The results of the study will enhance the teachers' understanding of the significance of ICT integration and classroom management practices and the learners' engagement. The connection between variables in the classroom settings and application

School Administrator. The results of this study would provide insight for the school administrators on the levels and how ICT Integration and Classroom Management Practices 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 allocate ICT tools procurement and infrastructure and plan activities to equip and enhance the teachers' Classroom Management Practices for the benefit of the learners.

Other Researchers. The results of the study will add the body knowledge and could be the bases for further studies considering essential variables other than what are identified in this study. The results will further lay the basis for new studies based on developing further research in the context of ICT integration classroom management practices 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:

Access and Availability of ICT Tools. Refers to how school provide sufficient and fair access to reliable ICT tools, resources, and facilities that support teaching and learning.

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

Attitudes Toward ICT Integration. This refers to the positive attitude toward ICT, believing it enhances teaching quality, motivates integration, reduces workload, and improves student learning.

Behavior Management. It refers to how teachers manage student behavior calmly and fairly by reinforcing positive actions, addressing issues promptly, and resolving conflicts constructively.

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

Classroom Environment. It refers to how teachers create a clean, organized, and supportive classroom environment that fosters respect, participation, and motivation to learn.

Classroom Management Practices. It refers to establishing classroom rules and procedures, time management, classroom environment, behavior management and instructional strategies and involvement.

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

Establishing Classroom Rules and Procedures. It refers to how teachers establish clear, consistent, and collaborative classroom rules and routines that promote order and accountability among students.

ICT Integration. It refers to access and availability of ICT tools, teachers' competence in ICT integration, instructional use of ICT and attitudes toward ICT integration.

Instructional Strategies and Involvement. It refers to how teachers employ diverse, student-centered strategies that encourage participation, address varied learning needs, and promote critical thinking and collaboration.

Instructional Use of ICT. This refers to how teachers effectively integrate ICT to create engaging, collaborative, and efficient learning experiences while supporting student participation and feedback.

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

Teachers' Competence in ICT Integration. This refers to the skills and confident in using, troubleshooting, and integrating ICT tools to enhance teaching and learning through continuous training and digital material development.

Time Management. It refers to how teachers manage class time efficiently by preparing in advance, minimizing disruptions, and ensuring smooth transitions between learning activities

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 : This study employed a quantitative descriptive-correlational research design utilizing regression analysis. Quantitative research involves the collection and analysis of numerical data to examine patterns, relationships, and trends among variables. It is particularly useful in educational research where important variables cannot be manipulated or controlled by the researcher (Johnson, 2011). Specifically, the descriptive-correlational design was used to describe the existing levels of ICT Integration, Classroom Management Practices, and Learners' Engagement and to determine the relationships among these variables without manipulating the study environment. According to Creswell and Creswell (2017), correlational research examines the degree of association between two or more variables and helps predict outcomes based on the identified relationships. By using this design, the researcher did not control or manipulate the variables because they had already occurred and could not be controlled. The researcher considered possible alternative explanations, gathered legitimate answers to the research questions, determined the relationships among variables, identified the variables that best influenced learners'

Engagement, jointly analyzed several variables, and presented conclusions. Published studies were also incorporated into the discussion to facilitate understanding and support the findings. This design was deemed appropriate because it determined the level of ICT Integration, Classroom Management Practices, and Learners' Engagement, as well as the relationships between ICT Integration and Learners' Engagement and between Classroom Management Practices and Learners' Engagement. Furthermore, regression analysis was employed to determine the influence of ICT Integration and Classroom Management Practices on Learners' Engagement as perceived by teachers in the public elementary schools of Maragusan West District.

Research Locale : This study was conducted in the Maragusan West District in the Municipality of Maragusan, province of Davao de Oro. Maragusan is bordered to the north by New Bataan, to the south by Pantukan, to the east by Davao Oriental, and to the west by Maco and Mabini, Davao de Oro. There are 24 barangays in all. Its total population, as reported in the 2015 census, is 60,842. San Mariano was its original name. Although there are many different ethnic groups living there, the Mansaka tribe makes up the majority. Because of its temperature, it is referred to as "Little Baguio." The region boasts stunning green scenery and a rough, hilly landscape. The municipality is home to a wide variety of flora due to its chilly environment, and agriculture is the main source of income for the locals. It is one of the main providers of vegetables and fruits, including bananas, both inside and outside the Compostela province. In addition to producing the sweetest banana ever, the area is well-known across the Davao de Oro Province and the surrounding area for its extremely uncommon flower species with the largest petals. Before the majority arrived, the Mansaka were the first people to live in the area. These people currently make up the largest ethnic group, with the Mandaya tribe coming in second.

Maragusan Central Elementary School is a public elementary school located in the Maragusan West District, serving learners from nearby barangays. The school follows the K–12 curriculum mandated by the Department of Education and provides programs aimed at developing both academic skills and values formation. Equipped with basic educational facilities, the school also integrates Information and Communication Technology (ICT) to enhance teaching and learning. Bagong Silang Elementary School caters to learners from its barangay and surrounding communities. Located approximately 4 kilometers from the town proper, the school emphasizes foundational literacy and numeracy skills, promoting active learner participation in both school-based and community-related activities. Teachers utilize available instructional resources to support effective learning delivery. Magcagong Elementary School is a rural public school committed to delivering accessible and inclusive basic education. Located approximately 3 kilometers from the town proper (poblacion), about 40 percent of its learners belong to the Mansaka tribe. The school supports learners' academic growth while fostering values formation. Instructional practices are continuously improved, including the use of ICT when available, to enhance learning outcomes.

Mahayahay Elementary School provides holistic education to learners, combining academic achievement with character formation. Located approximately 12 kilometers from the town proper, the school serves a community where Mansaka learners are still present. It encourages learner-centered teaching strategies and gradually integrates ICT tools to facilitate meaningful learning experiences. Mabugnao Elementary School serves learners within its local community. Located approximately 8 kilometers from the town proper, the school continues to serve Mansaka learners and is classified as a combination school with a gulayan program. It emphasizes inclusive learning and effective teaching practices, incorporating ICT where possible to improve engagement and instructional delivery.

Mauswagon Elementary School provides quality education through adaptive teaching approaches. Located approximately 1.5 kilometers from the town proper, it is the closest school to the town center and is surrounded by banana plantations. The school focuses on developing learners' basic competencies and encourages innovative instructional strategies, including the integration of ICT, to support student learning. New Katipunan Elementary School offers basic education aimed at producing academically competent and socially responsible learners. Located approximately 1.5 kilometers from the town proper, it is near the town center and surrounded by banana plantations. The school follows the K–12 curriculum and utilizes ICT-based teaching strategies to improve learning outcomes. New Panay Integrated School provides accessible education to children in its locality. Located approximately 6 kilometers from the town proper, the school is surrounded by rice fields. It emphasizes collaborative learning, teacher effectiveness, and the use of available technology to enhance classroom instruction. Parasanon Integrated School focuses on developing essential academic skills and promoting values education. Located approximately 14 kilometers from the town proper, it is the farthest and most mountainous school in the district, serving a community where Mansaka learners are present. The school adopts various teaching strategies, including ICT integration, to ensure effective and engaging learning experiences. Saranga Elementary School is committed to delivering inclusive and quality basic education. Located within the town proper but situated in a mountainous area, the school supports learners through structured instructional practices and encourages the use of ICT to enhance teaching and learning efficiency.

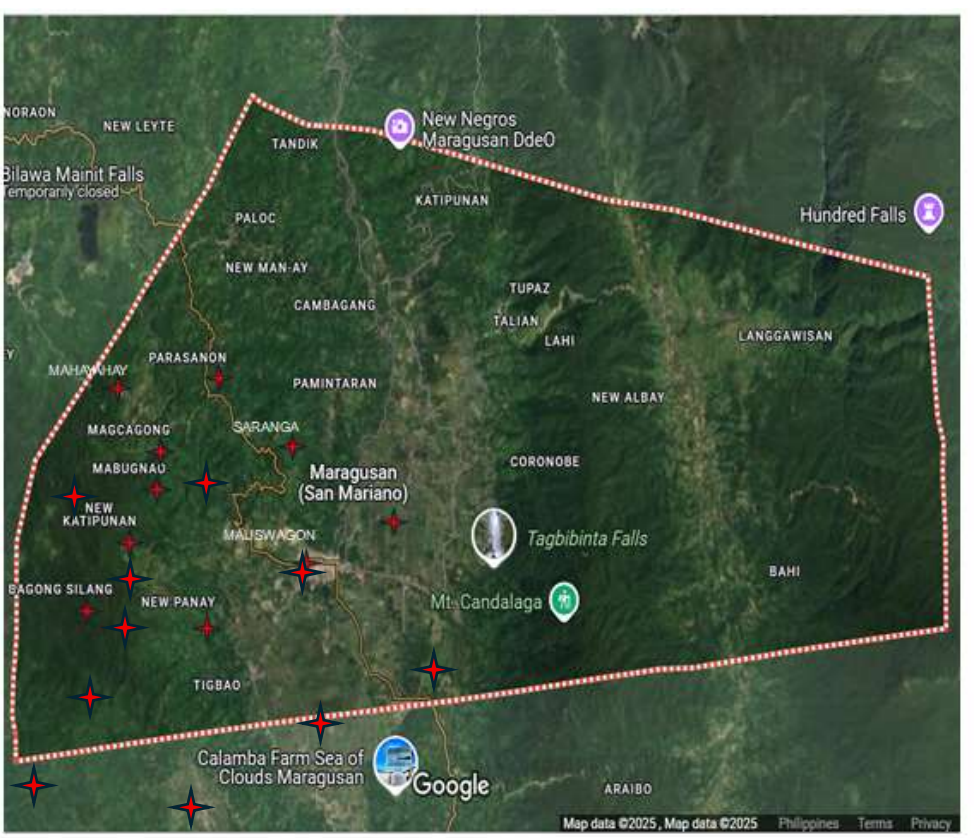

Figure 2 Location Map of the Study

Respondents of the Study : The respondents of this study were the public elementary school teachers in Maragusan West District, comprising eleven complete elementary schools. For the quantitative component, the study included all teachers from kindergarten to grade six regardless of the Plantilla positions; universal sampling method was employed since the entire population is covered, to wit:

Table I
The Distribution of Respondents

School	Population
Bagong Silang Elementary School	16
Mabugnao Elementary School	4
Magcagong Elementary School	12
Mahayahay Elementary School	7
Maragusan Central Elementary School	92
Parasanon Integrated School	7
New Katipunan Elementary School	11
New Panay Integrated School	17
Mauswagon Elementary School	11
Saranga Elementary School	7
Total	**184**

Research Instrument : This study used an adapted questionnaire in gathering the needed data that underwent modification to fit in the research purposes and respondents. The first was the ICT Integration was taken from work of Gamit (2023) which was broken down into five domains namely: access and availability of ICT tools, teachers' competence in ICT Integration, instructional use of ICT and attitudes toward ICT Integration. The survey questionnaire consists of 20 items distributed among four indicators. Using the Likert Scale, 4 is the highest and 1 is the lowest.

To measure the level of ICT integration, the following parameter limits was used:

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

The questionnaire for Classroom Management Practices was inspired from the work of Lacre and Valle (2024) that contains five indicators, establishing classroom rules and procedures, time management, classroom environment, behavior management and instructional strategies and involvement. These indicators have five statements each.To measure the Classroom Management Practices, the following parameter limits was used:

Range of Means	Descriptive Equivalent	Interpretation
3.50 – 4.00	Very High	This means that the classroom management practices are always observed.
2.50 – 3.49	High	This means that the classroom management practices are mostly observed.
1.50 – 2.49	Low	This means that the classroom management practices are seldom observed.
1.00 – 1.49	Very Low	This means that the classroom management practices are rarely or never observed.

On the other hand, the questionnaire for learners' engagement adapted from the work of Nazamud-din et al. (2020) that contains three indicators, cognitive engagement, affective engagement and behavioral engagement. These indicators have six 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 undergone pilot testing to 40 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 and found to be valid. In addition, the questionnaire undertaken 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 was started.

Permission to Conduct the Study. Before asking an endorsement letter from the dean's office, the researcher submitted his corrected manuscript for ethics review. Once approved by the Ethics Review Committee, an endorsement letter from the Dean of the Graduate will be 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 at 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 was taken into consideration. To ensure that the respondents would become more responsible in answering each item, the researcher was solely administered, retrieve and encode all their responses in his personal computer. Another ethical factor and element that was 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 submitted 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 5 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 display the results of the study. All data that shall be 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:

Mean. This was used to determine the level of ICT integration, classroom management practices and the engagement of the learners.

Pearson-r or Product Moment Correlation. This will be used to determine the relationship between the ICT integration and the learners' engagement, and classroom management practices and the learners' engagement.

Multiple Linear Regression Analysis. This was utilized to find out the effect of the level ICT integration and Classroom Management Practices on learners' engagement.

Ethical Considerations : Ethical consideration presents the principles and concepts that maintained throughout the study. With this, the researcher ensured that the ethical standards was strictly followed throughout the study addressing the areas that follow (Bhashin, 2020),

Social Value. This research aimed to determine the significant influence of ICT integration and Classroom Management Practices on learners' engagement in public elementary schools of Maragusan West District. This study aims to answer the following questions: Is there a significant relationship between: ICT Integration and the Learners Engagement; and Classroom Management Practices with the Learners Engagement? Which variable significantly predicts the Learners Engagement?

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 freed 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 was explained the entire process and emphasized that the participants had the freedom to opt not to continue answering the survey if they experience any discomfort and it will not affect them in any aspect.

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

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

Justice. The research participants was chosen based on the inclusion criteria: must be an elementary school teacher within Maragusan West District. They will be of any gender and

positions. 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 will reimburse them.

Transparency. To address this aspect, the researcher was disclose the affiliations and the objective of the study. The research respondents will be given a chance to document their answers to verify the reliability and validity of the data that were 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.

Levels of ICT Integration

Table 2
ICT Integration

Indicator	Mean Rating	Descriptive Equivalent
Access and Availability of ICT Tools	3.23	High
Teachers' Competence in ICT Integration	3.05	High
Instructional Use of ICT	3.42	High
Attitudes Toward ICT Integration	3.75	Very High
Overall	**3.36**	**High**

Shown in Table 2 is the level of ICT Integration. The overall mean obtained on the ICT Integration is 3.36 described as high. This means that ICT Integration is always manifested. Specifically, the mean ratings of the indicators of ICT Integration are displayed from highest to lowest: attitudes toward ICT integration achieved a mean rating of 3.75 or very high; instructional use of ICT obtained a mean rating of 3.42 describe as high; access and availability of ICT tools garnered a mean rating of 3.23 or high; and lastly, Teachers' Competence in ICT Integration got mean rating of 3.05 described as high.

Table 3
Access and Availability of ICT Tools

Indicator	Mean Rating	Descriptive Equivalent
I have sufficient access to computers/laptops in my workplace.	3.60	Very High
The internet connection provided is reliable for teaching and learning.	3.30	High

Educational software and digital resources are available when needed.	3.15	High
Classrooms are equipped with ICT facilities (e.g., projectors, smart boards).	3.00	High
The school ensures fair access to ICT tools for both teachers and students.	3.06	High
Overall	**3.23**	**High**

Table 3 showed the level of the first indicator, access and availability of ICT tools. It has an overall mean of 3.23 or high. Among items, the highest mean obtained in the statement "I have sufficient access to computers/laptops in my workplace" which is 3.60 Interpreted as very high. The lowest mean of 3.00 in the statement "Classrooms are equipped with ICT facilities" that described as high.

Table 4

Teachers' Competence in ICT Integration

Indicator	**Mean Rating**	**Descriptive Equivalent**
I can effectively use ICT tools to enhance teaching and learning.	3.51	Very High
I am confident in troubleshooting basic ICT-related problems.	2.72	High
I regularly attend training/seminars to improve my ICT skills.	2.71	High
I can design and develop digital instructional materials.	2.92	High
I can integrate ICT into different subject areas.	3.37	High
Overall	**3.05**	**High**

Table 4 shows the level of teachers' competence in ICT integration. It exhibited an overall mean of 3.05 or high. This divulged from the highest mean in the statement "I can effectively use ICT tools to enhance teaching and learning" which is 3.51, described as very high. The lowest mean of 2.71 is the statement "I regularly attend training/seminars to improve my ICT skills" described as high.

Table 5

Instructional Use of ICT

Indicator	Mean Rating	Descriptive Equivalent
I use ICT to facilitate interactive and engaging classroom activities.	3.49	High
ICT helps me deliver lessons more effectively.	3.70	Very High
I encourage students to use ICT in completing tasks and projects.	3.13	High
ICT integration promotes collaborative learning among students.	3.53	Very High
I use ICT tools to provide timely feedback to students.	3.25	High
Overall	**3.42**	**High**

Table 5 shows the level of instructional use of ICT. The result displayed an overall mean of 3.42 described as high. Among five indicators, it revealed the highest mean is the statement "ICT helps me deliver lessons more effectively" which garnered 3.70 labeled as very high. The lowest mean is obtained in the statement "I encourage students to use ICT in completing tasks and projects" that got a 3.13 depicted as high.

Table 6
Attitudes Toward ICT Integration

Indicator	Mean Rating	Descriptive Equivalent
I believe ICT improves the quality of teaching and learning.	3.94	Very High
I feel motivated to integrate ICT into my lessons.	3.65	Very High
I have a positive attitude toward adopting new technologies in education.	3.77	Very High
ICT reduces my workload in preparing and delivering lessons.	3.74	Very High
I believe students learn better when ICT is integrated into the classroom.	3.67	Very High
Overall	**3.61**	**Very High**

Table 6 indicates the level of attitudes toward ICT integration. The result displayed an overall mean of 3.61 or very high. Among the five pointers, it revealed the highest mean is the statement "I believe ICT improves the quality of teaching and learning" which garnered 3.94 labeled as very high. The lowest mean is obtained in the statement "I feel motivated to integrate ICT into my lessons" that got a 3.65 however still described as very high.

Levels of Classroom Management Practices

Table 7

Classroom Management Practices

Indicator	Mean Rating	Descriptive Equivalent
Establishing Classroom Rules and Procedures	3.77	Very High
Time Management	3.59	Very High
Classroom Environment	3.79	Very High
Behavior Management	3.77	Very High
Instructional Strategies and Involvement	3.76	Very High
Overall	**3.74**	**Very High**

Shown in Table 7 is the level of classroom management practices. The overall mean on the classroom management practices was 3.74 described as very high. This means that the classroom management practices were always observed by public elementary schools. Precisely, the mean rating of the classroom management practices was disclosed among five indicators: first, classroom environment gained a mean rating of 3.79; second, Indicator establishing classroom rules and procedures and behavior management that both garnered a mean rating of 3.77; next, instructional strategies and involvement that earned a rating of 3.76 and lastly, Time Management that held a mean rating of 3.59, all described as very high.

Table 8

Establishing Classroom Rules and Procedures

Indicator	Mean Rating	Descriptive Equivalent
I clearly communicate classroom rules and expectations to my students.	3.78	Very High
The rules in my class are consistently enforced.	3.73	Very High
I involve students in setting classroom guidelines.	3.81	Very High
I establish routines that help maintain order in class.	3.84	Very High
My students understand the consequences of breaking rules.	3.70	Very High
Overall	**3.77**	**Very High**

Table 8 indicated the level of the indicator establishing classroom rules and procedures. The result presented an overall mean of 3.77 or very high. It further revealed all statements got scored very high descriptive interpretations, however in single capacity the highest mean is obtained in the statement "I establish routines that help maintain order in class" which earned a mean 3.84. The lowest mean is obtained in the statements, "My students understand the consequences of breaking rules" that got a mean of 3.70.

Table 9

Time Management

Indicator	**Mean Rating**	**Descriptive Equivalent**
I begin and end my classes on time.	3.63	Very High
I maximize instructional time by minimizing disruptions.	3.59	Very High
I prepare my materials and lessons in advance.	3.56	Very High
I allocate sufficient time for different learning activities.	3.60	Very High
I effectively transition students between tasks to save time.	3.55	Very High
Overall	**3.59**	**Very High**

Table 9 indicated the level of the indicator time management. The result presented an overall mean of 3.59 or very high. It further revealed all statements got scored very high descriptive interpretations, however in single capacity the highest mean is obtained in the statement "I begin and end my classes on time" which earned a mean 3.63. The lowest mean is obtained in the statements, "I effectively transition students between tasks to save time." that got a mean of 3.55.

Table 10

Classroom Environment

Indicator	**Mean Rating**	**Descriptive Equivalent**
I maintain a clean and organized classroom.	3.72	Very High
The seating arrangement in my class supports learning.	3.73	Very High

I ensure that the classroom is conducive to active participation.	3.84	Very High
I encourage respect and positive relationships among students.	3.86	Very High
My classroom environment motivates students to learn.	3.81	Very High
Overall	**3.79**	**Very High**

Table 10 showed the level of the indicator time management. The result presented an overall mean of 3.79 or very high. It further revealed all statements got scored very high descriptive interpretations, however in single capacity the highest mean is obtained in the statement "I encourage respect and positive relationships among students" which earned a mean 3.86. The lowest mean is obtained in the statements, "I maintain a clean and organized classroom" that got a mean of 3.72.

Table 11
Behavior Management

Indicator	**Mean Rating**	**Descriptive Equivalent**
I address disruptive behavior immediately and fairly.	3.79	Very High
I use positive reinforcement to encourage good behavior.	3.79	Very High
I apply appropriate disciplinary actions when necessary.	3.76	Very High
I manage conflicts among students in a constructive way.	3.77	Very High
I maintain a calm and respectful demeanor when dealing with misbehavior.	3.72	Very High
Overall	**3.77**	**Very High**

Table 11 showed the level of the indicator behavior management. The result presented an overall mean of 3.77 or very high. It showed all statements got very high descriptive interpretations, however in single capacity the highest mean is obtained in both statements "I address disruptive behavior immediately and fairly and I use positive reinforcement to encourage good behavior." which earned a mean 3.79. The lowest mean is obtained in the statements, "I maintain a calm and respectful demeanor when dealing with misbehavior" that got a mean of 3.72.

Table 12
Instructional Strategies and Involvement

Indicator	Mean Rating	Descriptive Equivalent
I use a variety of teaching strategies to engage students.	3.65	Very High
I encourage active participation during class discussions.	3.85	Very High
I adapt my teaching style to address different learning needs.	3.76	Very High
I provide clear instructions that students can easily follow.	3.81	Very High
I use classroom activities that promote critical thinking and collaboration.	3.74	Very High
Overall	**3.76**	**Very High**

Table 12 showed the level of the indicator instructional strategies and involvement. The result presented an overall mean of 3.76 or very high. It further revealed all statements got very high descriptive interpretations, however in single capacity the highest mean is obtained in the statement "I encourage active participation during class discussions" which earned a mean 3.85. The lowest mean is obtained in the statements, "I use a variety of teaching strategies to engage students" that got a mean of 3.65.

Levels of Learners' Engagement

Table 13

Learners' Engagement

Indicator	Mean Rating	Descriptive Equivalent
Cognitive Engagement	3.39	High
Affective Engagement	3.59	Very High
Behavioral Engagement	3.47	High
Overall	**3.48**	**High**

Shown in Table 13 is the level of learners' engagement. The overall mean gained on the learners' engagement is 3.48 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 from highest to lowest: first, affective dimension gains a mean rating of 3.59 labeled as very high; second, behavioral dimension that garners a mean rating of 3.47 described as high; and lastly, cognitive dimension that holds a mean rating of 3.39 described as high.

Table 14

Cognitive Engagement

Indicator	**Mean Rating**	**Descriptive Equivalent**
My learners pay attention in my class	3.49	High
My learners form a new understanding from various pieces of information	3.47	High
My earners find ways of applying what they are learning in class to something else in their life.	3.44	High
My earners evaluate the opinion discussed in the classroom	3.37	High
My learners memorize important course notes after the discussion.	3.24	High
My learners summarize what they have learned in class.	3.35	High
Overall	**3.39**	**High**

Table 14 shows the level of cognitive engagement. The result displayed an overall mean of 3.39 or high. Along with six pointers, it reveals the highest mean obtained in the statement "My learners pay attention in my class" which earned a mean 3.49 or very high. The lowest mean of 3.24 is obtained in the assertion "My pupils memorize important course notes after the discussion." Which is described as high.

Table 15

Affective Engagement

Indicator	**Mean Rating**	**Descriptive Equivalent**
My learners feel energized by the ideas that they are learning in most of their classes.	3.54	Very High
My learners feel that interaction with my classmates helps me to understand better	3.58	Very High

My learners feel excited about the activities that we experience in the classroom	3.74	Very High
My learners realize that they have learned something that changed the way they understand a concept	3.51	Very High
My learners feel fascinated by the lesson content	3.51	Very High
My learners feel that they are an important member of their learning team.	3.69	Very High
Overall	**3.59**	**Very High**

Table 15 indicates the level of affective engagement. The result shown an overall mean of 3.59 or very high. Along with six pointers, it reveals the highest mean obtained in the statement "My learners feel excited about the activities that we experience in the classroom" which earned a mean 3.74 or very high. The lowest mean of 3.51 is obtained in both statements "My learners feel excited about the activities that we experience in the classroom and My learners feel fascinated by the lesson content" which is described as very high.

Table 16

Behavioral Engagement

Indicator	**Mean Rating**	**Descriptive Equivalent**
My learners take advantage of available learning resources other than what their teachers have provided	3.46	High
My learners identify key information from reading assignments, videos and PowerPoint teacher slides	3.44	High
My learners watch videos suggested by their teachers.	3.42	High
My learners always complete the task given by the teacher in class during lessons	3.44	High
My learners regularly participate in class discussions in most of their classes	3.55	Very High
My learners ask their questions during class if they do not understand	3.51	Very High
Overall	**3.47**	**High**

Table 16 shows the level behavioral engagement. The result displays an overall mean of 3.47 or high. Along with six statements, it reveals the highest mean in the statement "My learners regularly participate in class discussions in most of their classes" which earns a mean 3.55 described as very high. The lowest mean is obtained in the assertion "My learners watch videos suggested by their teachers" that get 3.42 described as high.

Relationship Between Measures

Table 17
Correlations

		ICT Integration	Classroom Management Practices	Learners Engagement
ICT Integration	*Pearson Correlation*	1	.517**	.547**
	Sig. (2-tailed)		.000	.000
	N	157	157	157
Classroom Management Practices	*Pearson Correlation*	.517**	1	.715**
	Sig. (2-tailed)	.000		.000
	N	157	157	157
Learners Engagement	*Pearson Correlation*	.547**	.715**	1
	Sig. (2-tailed)	.000	.000	
	N	157	157	157

Table 17 displayed the result of the test of the relationship between ICT integration and learners' engagement. It manifested a correlation coefficient of .547 and a *p* value equal to .000. This means that there is a significant moderate association between ICT Integration and learners' engagement. Furthermore, a high positive relationship between classroom management practices and learners' engagement has been exhibited with a correlation coefficient of .715 and p-value equal to .000, therefore significant.

Regression Analysis

Table 18
Influence of ICT Integration on Learners Engagement

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.557[a]	.310	.292	.33960

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.870	4	1.967	17.060	.000[b]
	Residual	17.530	152	.115		
	Total	25.400	156			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.669	.234		7.120	.000
	Access and Availability	.073	.073	.096	.990	.324
	Teachers' Competence in ICT Integration	.131	.077	.178	1.697	.092
	Instructional Use of ICT	.236	.076	.284	3.096	.002
	Attitudes Toward ICT Integration	.101	.050	.146	2.029	.044

a. *Dependent Variable: Learners Engagement*

The result of the analysis showed that the level ICT Integration was statistically significant predictor of the learners' engagement as to computed R squared value of .310 and p value of <0.05. This means that 31% of the variance in learners' engagement can be explained by ICT Integration. The data showed that out of four domains of ICT integration only two indicators manifested significant impact of learners' engagement, to wit: attitudes toward ICT integration and instructional use of ICT. Moreover, in single capacity instructional use of ICT manifested the strongest influence on learners' engagement.

Table 19

Influence of Classroom Management Practices on Learners' Engagement

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.748[a]	.559	.544	.27240

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.195	5	2.839	38.262	.000[b]
	Residual	11.204	151	.074		
	Total	25.400	156			

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.349	.275		1.268	.207
	Establishing Classroom Rules and Procedures	.067	.083	.059	.812	.418
	Time Management	.438	.073	.466	5.966	.000
	Classroom Environment	.060	.091	.051	.655	.514
	Behavior Management	-.002	.098	-.001	-.016	.987
	Instructional Strategies and Involvement	.290	.097	.274	3.005	.003

a. Dependent Variable: Learners' Engagement

The result of the analysis showed that the classroom management practices were statistically significant predictors of the learners' engagement as to computed R squared value of .559 and p value of <0.05. This means that 55.9% of the variance in learners' engagement can be explained by classroom management practices. The data showed that out of five domains of classroom management practices only two indicators manifested significant impact of learners' engagement, to wit: time management and instructional strategies and involvement. Moreover, in single capacity time management was the strongest predictor on learners' engagement.

IV. DISCUSSIONS AND CONCLUSION

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

Discussion

Level of ICT Integration. The level of ICT integration is very high. This means that ICT integration is always manifested in schools of Maragusan district. This means that the attributes of ICT integration were displayed most of the times. This implied that Teachers have adequate availability of computers/laptops in their workplace. Internet connectivity is adequate for teaching and learning, as well as educational software or digital resources when required. They have a good understanding of how ICT tools can be utilized to enhance teaching and learning. They had confidence in diagnosing basic ICT problems. They regularly conducted training/seminars on ICT-related topics. They employed ICT to enact interactive and dynamic classroom interactions. In thought, ICT had facilitated their lessons. ICT was encouraged for students to complete tasks and projects. They believe ICT improves the quality of teaching and learning. The ICT integration in the classroom in the study conducted by Brasileño and Bidad (2021) and similar a result found by Pastor and Pedro (2023) stating ICT integration in class in on average level, which was far way differ to the result of this study. This may be due to the continuously advancing technology in the field of teaching. Moreover, some of the attributes were already manifested during those times. The teachers are well-versed in how ICT tools can improve instruction and learning (Molotsi, 2022). They were confident in their ability to identify simple ICT issues.

They often held seminars and training sessions on ICT-related subjects. They used ICT to create engaging and dynamic learning environments. ICT had, in their opinion, made their lessons easier. Students were encouraged to use ICT to finish assignments and projects. They contend that ICT raises the standard of instruction and learning (Balol, 2023).

Level of Classroom Management Practices. : The results displayed a very high level which showed that the attributes of classroom management practices were always observed in the different elementary schools in the Maragusan West District. This means that teachers are always good at managing their classrooms because they set clear rules and procedures, use their time well, and make the classroom a positive and structured place to be. Teachers also always use the correct behavior management tactics by dealing with disruptive conduct in a way that is helpful, utilizing positive reinforcement, and handling disagreements that may come up in the classroom in a way that is helpful. Teachers also use a variety of teaching methods that get students involved, meet their diverse learning needs, and inspire them to think critically and work together. This shows that teachers are very dedicated to making sure their classrooms are clean, safe, and interesting for their kids.

This result is consonance to the study focused on the classroom management practices based on Philippine Professional Standards for Teachers or PPST in the district of Jomalig by Bermudez and Abejuela (2020). However, a little difference in the study of Villaluz and Lagunday (2025) who found a high level of classroom management practices in Cluster 3 schools in the Division of Bacolod City. The teachers are always successful at managing their classrooms because they set clear rules and procedures, spend their time well, and make the classroom a positive and structured place to be (Burden, 2025). Additionally, teachers consistently employ the proper behavior management strategies by employing positive reinforcement, handling disruptive behavior in a constructive manner, and resolving conflicts that may arise in the classroom. Additionally, teachers employ a range of instructional strategies that engage students, address their various learning requirements, and encourage critical thinking and teamwork (Mugabekazi et al., 2025).

Level of Learners Engagement. The learners' engagement described as very high. This means that the learners' engagement is always observed in public elementary schools. This indicated that the teachers constantly observed the learners paying attention during class. 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. They evaluated the opinion discussed in the classroom and felt that they are an important participant of their learning team. They felt excited about the activities that they experience in the classroom. Lastly, they regularly participate in class discussions in most of their classes. The findings slightly similar of those Agregado and Gaitano (2024), who found that Filipino pupils had a high level of participation. The learners consider the opinions expressed in class and believe they are a vital component of their learning team (Amerstorfer et al., 2021). The activities that take place in the classroom pique their curiosity. Students are motivated by the concepts taught in most of their classes. The pupils think they learn more from their contacts with their peers. Lastly, in most of their classrooms, they actively participate in class discussions (Shin et al., 2021). This indicated that public elementary schools have the highest levels of student engagement. This demonstrates that instructors observed pupils paying attention in class (Hafez, 2023).

Correlation Between Measures. It displayed the result of the test of the relationship between ICT Integration and learners' engagement.

It was revealed that there is a significant moderate relationship between ICT Integration and learners' engagement. This implies that if the ICT Integration increases the level of learners' engagement also increases and vice versa. This confirmed the findings of Arzeen et al. (2023) who explore and found out association of ICT self-efficacy and integration and student engagement among middle and late adolescents. Also, it supported the findings of Abubakar (2024) that ICT integrated curriculum was positively correlated with learners' engagement. Together with the findings of Hasas et al. (2024) that ICT integration significantly correlates with the learners' engagement in physical education.

Also, the classroom management practice and learners' engagement exhibited strong positive correlation. This implies that the levels of the classroom management practice and learners' engagement were related. This confirmed the findings of Onyimonyi (2025) that classroom management practice and learners' engagement in secondary schools in Nigeria Science classes. Another similar findings with this research's result came from Obaka (2025) who reveal a significant positive relationship between effective classroom management skills and both student engagement and interactions.

The influence of ICT Integration on Learners Engagement. The results of the analysis revealed that the extent of ICT integration was a statistically significant predictor of learners' involvement. This suggests that every unit increase in ICT Integration accounts for 31% of the variation in learner engagement. The findings revealed attitudes towards ICT integration and instructional use of ICT predicted the learners' engagement. Furthermore, in a single capacity, attitudes towards ICT integration had the greatest influence on learners' engagement. This supported with the study of Roopa and Rajesh Kanna (2024) who stressed up that integration of Information and Communication Technology (ICT) in education has redefined the landscape of learning, offering transformative tools to enhance student engagement and academic achievement. Thus, understanding the role of ICT becomes increasingly crucial for fostering a more inclusive, engaging, and effective learning environment. Similarly, Cabalbag (2025) found that ICT integration impacted the learners' engagement.

The influence of Classroom Management Practices on Learners Engagement. The regression analysis showed that the classroom management practices were statistically significant predictors of the learners' engagement. This means that 55.9% of the variance in learners' engagement can be explained by every unit increased in classroom management practices. The data showed that time management and instructional strategies and involvement influence learners' engagement. Moreover, in single capacity time management was the strongest predictor on learners' engagement. This finding strengthened the study result of Cambay and Paglinawan (2024) that classroom management practices significantly influence the learners' engagement among 145 Junior High School students from San Nicolas National High School, Philippines. Furthermore, it confirmed the study of Paynandos and Doronio (2025) who found out the influence of classroom management approaches on students' engagement.

V. CONCLUSION

The high level of ICT integration presumed that the Maragusan West District teachers were integrating ICT in their classes. Thus, the teachers were aligned with the target skills to be developed among 21st century learners. Also, classroom management practices exhibited very high level. Therefore, it can be assumed that teachers were in the right path in bringing classroom activities to the best interest of the pupils. Similarly, there was perceived learners' engagement was high.

Based on the findings of this study, there is a significant correlation between ICT integration and learners' engagement, as well as between classroom management practices and learners' engagement. The correlation between ICT integration and learners' engagement is moderate; therefore, it can be inferred that ICT integration can significantly enhance learners' engagement in class activities. When teachers utilize ICT tools and materials effectively, students are likely to participate actively in the learning process. Moreover, there is a strong correlation between classroom management practices and learners' engagement; therefore, it can be inferred that effective classroom management practices significantly influence students' active participation in class activities. The regression analysis showed that classroom management practices can explain 55.9% of learners' engagement, while ICT integration can explain 31% of learners' engagement. This implies that although ICT can influence learners' engagement, it is still less significant than classroom management practices. A portion of learners' engagement is influenced by other factors not considered in this study.

In conclusion, ICT integration and classroom management practices significantly influence learners' engagement. The results of this study also support the Self-Determination Theory (SDT) as proposed by Deci and Ryan (1985), which states that learners are likely to display higher levels of engagement when the learning environment promotes intrinsic motivation, autonomy, competence, and relatedness. When there is ICT integration and classroom management, it creates a learning environment that promotes learners' engagement in learning. It is, therefore, important to strengthen ICT integration and classroom management to increase learners' engagement in a classroom setting. Therefore, the null hypotheses are rejected.

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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 ICT integration, potentially by training workshops that will enhance the capability of teachers in the integration of digital literacy and upgrading skills in using productivity tools. Also, marrying ICT integration with classroom management practices to enhance learning engagement and outcomes. Allocating adequate funds 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 ICT integration, improving qualities of classroom management practices and learners' engagement. MOOE provides classroom internet connectivity, empowering teachers to continue learning, developing, and producing. Enrolling in online courses and graduate schools can help instructors expand their professional skills and learn throughout their careers. Keep instructors up to date on current ICT trends in education using the Learning Action Cell. Additionally, the researcher advises students to utilize technology-enhanced learning. Gamified learning platforms like thatquiz.org, Kahoot.it, Minecraft Education, and a few more online and offline educational games can be used for this. These will increase students' motivation to pick up new abilities and perspectives. As a result, parents are also urged to provide their kids the technology they need to explore and learn. Nonetheless, parental and educational assistance is still required.

The results of the study may provide a new or enhanced body of knowledge for the society to its decision making and a reference for researchers for additional research. The limitations of the current study were mentioned and suggested duplicating the study with a larger number participant to strengthen the results. The work revealed that we can add other factors, methods and instruments to explore how ICT integration and classroom management practices contribute to the engagement of learners. We expect that this research will help lay the

groundwork for developing educational policies and programs aimed at bettering students' outcomes

REFERENCES

1. Abel, V. R., Tondeur, J., & Sang, G. (2022). Teacher perceptions about ICT integration into classroom instruction. *Education Sciences*, *12*(9), 609.
2. Abubakar, U., Ogunlade, O. O., & Ibrahim, H. A. (2024). The influence of technology-integrated curriculum resources on student engagement and academic achievement in higher education. *Advances in Mobile Learning Educational Research*, *4*(2), 1208-1223.
3. Adigun, O. B., Fiegener, A. M., & Adams, C. M. (2023). Testing the relationship between a need thwarting classroom environment and student disengagement. *European Journal of Psychology of Education*, *38*(2), 659-673.
4. Afzal, A., & Rafiq, S. (2022). Impact of teachers' instructional techniques on student involvement in class: A Case study. *UMT Education Review*, *5*(2), 184-204.
5. Ahmad, Y. S. W. D. F., & MUSTAPHA, A. M. A. (2019). Impact of classroom environment on studentsperformance in English language. *environment*, *10*(17).
6. Akram, H., Abdelrady, A. H., Al-Adwan, A. S., & Ramzan, M. (2022). Teachers' perceptions of technology integration in teaching-learning practices: A systematic review. *Frontiers in psychology*, *13*, 920317.
7. Alasmari, N. J., & Althaqafi, A. S. A. (2024). Teachers' practices of proactive and reactive classroom management strategies and the relationship to their self-efficacy. *Language Teaching Research*, *28*(6), 2158-2189.
8. Alasmari, N. J., & Althaqafi, A. S. A. (2024). Teachers' practices of proactive and reactive classroom management strategies and the relationship to their self-efficacy. *Language Teaching Research*, *28*(6), 2158-2189.
9. Aldridge, J. M., & Blackstock, M. J. (2024). Assessing students' perceptions of school climate in primary schools. *Learning Environments Research*, *27*(3), 579-602.
10. Arifin, A., Suryaningsih, S. S., & Arifudin, O. (2024). The relationship between classroom environment, teacher professional development, and student academic performance in secondary education. *International Education Trend Issues*, *2*(2), 151-159.
11. Arzeen, N., Arzeen, S., & Muhammad, H. (2023). The mediating role of self-directed learning and e-Learning readiness in relationship between ICT self-efficacy and student engagement. *Journal of Development and Social Sciences*, *4*(2), 286-300.
12. Asio, J. M. R., Gadia, E., Abarintos, E., Paguio, D., & Balce, M. (2021). Internet connection and learning device availability of college students: Basis for institutionalizing flexible learning in the new normal. *Studies in Humanities and Education*, *2*(1), 56-69.
13. Balol, N. (2023). How the use of ICT encourages the students collaborative learning. *International Journal of Linguistics, Literature and Translation*, *6*(2), 42-49.
14. Bandoh, S. O., Akweittey, E., Lotey, E. K., Gordon, J. F., & Appiagyei, E. (2024). Using UTAUT model to assess the factors influencing the use of ICT in Ghanaian pre-tertiary mathematics education. *Journal of Digital Educational Technology*, *4*(1), ep2407.
15. Bariu, T., Chun, X., & Boudouaia, A. (2022). Influence of teachers' competencies on ICT implementation in Kenyan universities. *Education Research International*, *2022*(1), 1370052.
16. Barkley, E. F., & Major, C. H. (2020). *Student engagement techniques: A handbook for college faculty*. John Wiley & Sons.

17. Barksdale, C., Peters, M. L., & Corrales, A. (2021). Middle school students' perceptions of classroom climate and its relationship to achievement. Educational Studies, 47(1), 84-107.
18. Beasley, A. D. (2022). *College Students' Perceptions of the Importance of Student Engagement in Online Courses* (Doctoral dissertation, Walden University).
19. Brasileño, I., & Bidad, W. D. (2021). The state of ICT integration in the school learning system in junior high schools, General Santos–Philippines. *Sapienza: International Journal of Interdisciplinary Studies*, *2*(3), 76-88.
20. Burden, P. R. (2025). *Classroom management: Creating a successful K-12 learning community*. John Wiley & Sons.
21. Burden, P. R. (2025). *Classroom management: Creating a successful K-12 learning community*. John Wiley & Sons.
22. Burke Johnson Johnson, B. (2011). *Educational Research: Quantitative, Qualitative, and Mixed Approaches*.
23. Cabalbag, J. R. (2025). Technology integration: impact to students' learning engagement in higher education institutions. *Cogent Education*, *12*(1), 2581410.
24. Caberos, M. M., & Dioso, E. D. (2025). Teachers' Digital Competence and Learner Engagement: A Descriptive-Correlational Study. *Educational Research (IJMCER)*, *7*(4), 110-134.
25. Çağırgan, D., & Soytürk, İ. (2021). The relationship between math anxiety, student engagement in mathematics and responsibilities towards learning among middle school students. *Ilkogretim Online*, *20*(1).
26. Cambay, D. J. D., & Paglinawan, D. J. L. (2024). Classroom management strategies and school environment on student engagement. *International Journal of Research and Innovation in Social Science*, *8*(12), 1-13.
27. Cambay, D. J. D., & Paglinawan, D. J. L. (2024). Classroom management strategies and school environment on student engagement. *International Journal of Research and Innovation in Social Science*, *8*(12), 1-13.
28. Carroll, M., Lindsey, S., Chaparro, M., & Winslow, B. (2021). An applied model of learner engagement and strategies for increasing learner engagement in the modern educational environment. *Interactive Learning Environments*, *29*(5), 757-771.
29. Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
30. Derakhshan, A. (2021). The predictability of Turkman students' academic engagement through Persian language teachers' nonverbal immediacy and credibility. *Journal of Teaching Persian to Speakers of Other Languages*, *10*(21), 3-26.
31. Duchesneau, N. (2020). Social, Emotional, and Academic Development through an Equity Lens. *Education Trust*.
32. Egbe, J. E., & Osuji, G. E. (2025). INFLUENCE OF TEACHERS'STRATEGIES ON PUPILS'ENGAGEMENT IN LEARNING IN PRIMARY SCHOOLS IN ENUGU EDUCATION ZONE, ENUGU STATE, NIGERIA. *International Journal of Educational Research and Practice*, *13*(2), 12-37.
33. Emmasiegbu, M. (2022). Teacher's classroom management practices and student's academic performance in secondary schools in Nnewi education zone.
34. Gamit, A. M. (2023). ICT integration in elementary school for mathematics subject. *International Journal of Learning, Teaching and Educational Research*, *22*(2), 432-465.
35. Glaesser, D., Holl, C., Malinka, J., McCullagh, L., Meissner, L., Harth, N. S., ... & Mitte, K. (2024). Examining the association between social context and disengagement: Individual and classroom factors in two samples of at-risk students. *Social Psychology of Education*, *27*(1), 115-150.

36. Gute, B. D., & Wainman, J. W. (2019). Factors influencing student engagement, motivation, and learning: Strategies to enhance student success and retention. In *From general to organic chemistry: Courses and curricula to enhance student retention* (pp. 159-172). American Chemical Society.
37. Gutiérrez-Martín, A., Pinedo-González, R., & Gil-Puente, C. (2022). ICT and media competencies of teachers. convergence towards an integrated MIL-ICT model. *Comunicar: Media Education Research Journal*, *30*(70), 19-30.
38. Hafeez, M. (2021). Teaching-learning process and ict tools-a review. *Indonesian Journal of Basic Education*, *4*(1), 18-27.
39. Han, M., & Gutierez, S. B. (2021). Passive elementary student's constructed epistemic emotions and patterns of participation during small group scientific modeling. *Science Education*, *105*(5), 908-937.
40. Han, Y., & Wang, Y. (2021). Investigating the correlation among Chinese EFL teachers' self-efficacy, work engagement, and reflection. *Frontiers in Psychology*, *12*, 763234.
41. Hanaysha, J. R., Shriedeh, F. B., & In'airat, M. (2023). Impact of classroom environment, teacher competency, information and communication technology resources, and university facilities on student engagement and academic performance. *International Journal of Information Management Data Insights*, *3*(2), 100188.
42. Hasas, A., Enayat, W., Hakimi, M., & Ahmady, E. (2024). A comprehensive review of ict integration in enhancing physics education. *MAGNETON: Jurnal Inovasi Pembelajaran Fisika*, *2*(1), 36-44.
43. Herman, K. C., Reinke, W. M., Dong, N., & Bradshaw, C. P. (2022). Can effective classroom behavior management increase student achievement in middle school? Findings from a group randomized trial. *Journal of Educational Psychology*, *114*(1), 144.
44. Heung, Y. M. E., & Chiu, T. K. (2025). How ChatGPT impacts student engagement from a systematic review and meta-analysis study. *Computers and Education: Artificial Intelligence*, *8*, 100361.
45. Jadhav, P., Gaikwad, H., & Patil, K. S. (2022). Teaching and learning with technology: Effectiveness of ICT integration in schools. *ASEAN Journal for Science Education*, *1*(1), 33-40.
46. Jamun, Y. M., Ntelok, Z. R. E., & Ngalu, R. (2023). Pentingnya Penggunaan Teknologi Informasi dan Komunikasi dalam Menunjang Pembelajaran Sekolah Dasar. *EDUKASIA Jurnal Pendidikan dan Pembelajaran*, *4*(2), 2149-2158.
47. Jardinez, M. J., & Natividad, L. R. (2024). The Advantages and Challenges of Inclusive Education: Striving for Equity in the Classroom. *Shanlax International Journal of Education*, *12*(2), 57-65.
48. Jin, T., Jiang, Y., Gu, M. M., & Chen, J. (2022). "Their encouragement makes me feel more confident": Exploring peer effects on learner engagement in collaborative reading of academic texts. *Journal of English for Academic Purposes*, *60*, 101177.
49. Johnson, K. (2011). *Quantitative methods in linguistics*. John Wiley & Sons.
50. Junker, R., Gold, B., & Holodynski, M. (2021). Classroom management of pre-service and beginning teachers: From dispositions to performance. *International Journal of Modern Education Studies*, *5*(2), 339-363.
51. Kahveci, H. (2023). The Positive and Negative Effects of Teacher Attitudes and Behaviors on Student Progress. *Journal of Pedagogical Research*, *7*(1), 290-306.
52. Karasova, J., & Nehyba, J. (2023, April). Student-centered teacher responses to student behavior in the classroom: A systematic review. In *Frontiers in Education* (Vol. 8, p. 1156530). Frontiers Media SA.

53. Kaur, K. (2023). Teaching and learning with ICT tools: Issues and challenges. *International Journal on Cybernetics & Informatics*, *12*(3), 15-22.
54. Kayyali, M. (2026). Strategies for Engaging Generation Z Students in Higher Education. In *Developing Student Engagement Opportunities in Higher Education* (pp. 199-230). IGI Global Scientific Publishing.
55. Kilag, O. K. T., Ignacio, R., Lumando, E. B., Alvez, G. U., Abendan, C. F. K., QuiÃƒÂ±anola, N. A. M. P., & Sasan, J. M. (2022). ICT Integration in Primary School Classrooms in the time of Pandemic in the Light of Jean Piaget's Cognitive Development Theory. *International Journal of Emerging Issues in Early Childhood Education*, *4*(2), 42-54.
56. Kilag, O. K. T., Segarra, G. B., De Gracia, A. M. L., Del Socorro, A. S., Abendan, C. F. K., Camangyan, G. A., & Mahasol, E. T. (2023). ICT application in teaching and learning. *Science and Education*, *4*(2), 854-865.
57. Koenig, J., Heine, S., Jaeger-Biela, D., & Rothland, M. (2024). ICT integration in teachers' lesson plans: A scoping review of empirical studies. *European Journal of Teacher Education*, *47*(4), 821-849.
58. Kovács, K. E., Dan, B., Hrabéczy, A., Bacskai, K., & Pusztai, G. (2022). Is resilience a trait or a result of parental involvement? The results of a systematic literature review. *Education Sciences*, *12*(6), 372.
59. Kusmawan, A., Rahman, R., Anis, N., & Arifudin, O. (2025). The relationship between teacher involvement in curriculum development and student learning outcomes. *International Journal of Educatio Elementaria and Psychologia*, *2*(1), 1-12.
60. Lacre, D. H., & Valle, A. M. (2024). Classroom management practices and academic performance in multigrade classes. *International Journal of Multidisciplinary Research and Analysis*, *7*(8), 3706-3711.
61. Larson, K. E., Pas, E. T., Bottiani, J. H., Kush, J. M., & Bradshaw, C. P. (2021). A multidimensional and multilevel examination of student engagement and secondary school teachers' use of classroom management practices. *Journal of Positive Behavior Interventions*, *23*(3), 149-162.
62. Larson, K. E., Pas, E. T., Bottiani, J. H., Kush, J. M., & Bradshaw, C. P. (2021). A multidimensional and multilevel examination of student engagement and secondary school teachers' use of classroom management practices. *Journal of Positive Behavior Interventions*, *23*(3), 149-162.
63. Lee, D. (2022). *Design thinking in the classroom: Easy-to-use teaching tools to foster creativity, encourage innovation and unleash potential in every student*. Simon and Schuster.
64. Li, J., & Xue, E. (2023). Dynamic interaction between student learning behaviour and learning environment: Meta-analysis of student engagement and its influencing factors. *Behavioral Sciences*, *13*(1), 59.
65. Li, M. (2023). Chinese mathematics teachers' TPACK and attitudes toward ICT integration in the post-pandemic era. *Eurasia Journal of Mathematics, Science and Technology Education*, *19*(7), em2301.
66. Li, S., & Lajoie, S. P. (2022). Cognitive engagement in self-regulated learning: an integrative model. *European Journal of Psychology of Education*, *37*(3), 833-852.
67. Lotey, E. K., Arthur, Y. D., Gordon, J. F., & Adu-Obeng, B. (2023). Modeling basic school teachers acceptance of instructional technology in advancing mathematical pedagogy in Ghana. *Contemporary Mathematics and Science Education*, *4*(1), ep23006.
68. Machmud, M. T., & Fakhri, M. M. (2021). Indonesia teacher competencies in integrating information and communications technology for education. *Athens Journal of Technology & Engineering*, *331*.

69. Molotsi, A. R. (2022). The use of ICT resources to transform teaching at secondary schools in the Bojanala district, Northwest province. *South African Journal of Education*, *42*(si1), 1-10.
70. MR, R. K. (2024). Revolutionizing Learning: The Role of ICT in Enhancing Student Engagement and Achievement. *Library of Progress-Library Science, Information Technology & Computer*, *44*(3).
71. Msafiri, M. M., Kangwa, D., & Cai, L. (2023). A systematic literature review of ICT integration in secondary education: what works, what does not, and what next?. *Discover Education*, *2*(1), 44.
72. Mugabekazi, J. C., Mukanziza, J., Nizeyimana, P., & Manirahari, P. (2025). Integrating collaborative learning strategies in the curriculum: enhancing critical thinking and communication skills in primary education. *European Journal of Education Studies*, *12*(3).
73. Nepal, R., & Rogerson, A. M. (2020). From theory to practice of promoting student engagement in business and law-related disciplines: The case of undergraduate economics education. *Education Sciences*, *10*(8), 205.
74. Nguyen, L. T., Kanjug, I., Lowatcharin, G., Manakul, T., Poonpon, K., Sarakorn, W., ... & Tuamsuk, K. (2022). How teachers manage their classroom in the digital learning environment–experiences from the University Smart Learning Project. *Heliyon*, *8*(10).
75. Nindya, M. I. S., & Dafit, F. (2022). Utilization of information and communication technology on the learning process in Elementary School. *International Journal of Elementary Education*, *6*(1), 173-181.
76. Nwachukwu, C., & Uzokife, G. C. (2022). Effective Classroom Management Practices among Public Senior Secondary School Teachers in Anambra State. *International Journal of Trend in Scientific Research and Development (IJTSRD)*, *6*(4), 866-873.
77. Obaka, H. P. (2025). IMPACT OF CLASSROOM MANAGEMENT SKILLS ON ENGAGEMENT AND INTERACTIONS AMONG UPPER BASIC SCHOOL STUDENTS IN KOGI STATE. *ISSUES IN TEACHER EDUCATION AND TEACHING PRACTICE IN NIGERIAN UNIVERSITIES*, 36.
78. Ogbu, S. (2025). Modelling the Impacts of Teachers' Access, Motivation, Attitude, and Selfefficacy on Mathematics Teachers' Effective ICT Utilization in Classrooms. *International Journal of Instruction*, *18*(2), 429-454.
79. Oliveira, A. W., & Lathrop, R. (2022). Toward a curiosity mindset: reframing the problem of student disengagement from classroom instruction. *The European Educational Researcher*, *5*(3), 313-317.
80. Olivo, M. G. (2021). Time management of teachers and its relationship to teaching performance. *International Journal of Multidisciplinary: Applied Business and Education Research*, *2*(5), 448-462.
81. Öngören, S. (2022). Teachers' use of ICT in the preschool period: A mixed research method. *Education and information technologies*, *27*(8), 11115-11136.
82. Onyimonyi, C. C. O., Agi, K. M., & Namo, D. (2025). IMPACT OF CLASSROOM MANAGEMENT ON STUDENTS ENGAGEMENT AND LEARNING OUTCOMES IN SELECTED NIGERIAN SECONDARY SCIENCE CLASSES. *Sokoto Educational Review*, *24*(2), 55-63.
83. Parahakaran, S. (2021). sustainable development in collaborative learning communities. *Eubios Journal of Asian and International Bioethics*, *31*(3), 181.
84. Pastor, M. J. D., & Pedro, L. A. C. (2023). Mathematics Teachers' Levels of ICT Expertise and Use and Their Beliefs about ICT Integration and Students' Problem-Solving Skills. *Southeast Asian Mathematics Education Journal*, *13*(1), 57-72.
85. Primandiri, P. R., & Santoso, A. M. (2022, December). The development of students' worksheets using problem-based learning to improve creativity and time management

skills of students. In *AIP Conference Proceedings* (Vol. 2468, No. 1, p. 030016). AIP Publishing LLC.

86. Quines, L. A., & Relacion, M. C. D. (2022). The mediating effect of school climate on the relationship between teacher communication behavior and student engagement. *European Journal of Education Studies*, *9*(11).
87. Rahimi, A. R., & Tafazoli, D. (2022). The role of university teachers' 21st-century digital competence in their attitudes toward ICT integration in higher education: Extending the theory of planned behavior. *The Jalt Call Journal*, *18*(2), 238-263.
88. Raković, M., Matcha, W., Eagan, B., Jovanović, J., Shaffer, D. W., Pardo, A., & Gašević, D. (2023). Network analytics to unveil links of learning strategies, time management, and academic performance in a flipped classroom. *Journal of Learning Analytics*, *10*(3), 64-86.
89. Rijken, P. E., & Fraser, B. J. (2024). Effectiveness of project-based mathematics in first-year high school in terms of learning environment and student outcomes. *Learning Environments Research*, *27*(2), 241-263.
90. Romano, L., Angelini, G., Consiglio, P., & Fiorilli, C. (2021). Academic resilience and engagement in high school students: The mediating role of perceived teacher emotional support. *European journal of investigation in health, psychology and education*, *11*(2), 334-344.
91. Roopa, S. & Rajesh Kanna M. R., (2024). Revolutionizing Learning: The Role of ICT in Enhancing Student Engagement and Achievement. *Library of Progress-Library Science, Information Technology & Computer*, *44*(3).
92. Sahni, J. (2023). Is learning analytics the future of online education?: assessing student engagement and academic performance in the online learning environment. *International Journal of Emerging Technologies in Learning (iJET)*, *18*(2), 33-49.
93. Sawyerr, A., & Agyei, D. D. (2023). Mathematics teachers' use of ICT in classroom instruction: Exploring the will-skill-tool-pedagogy model in the Ghanaian context. *Education and Information Technologies*, *28*(8), 9397-9416.
94. Shank, M. K., & Santiague, L. (2022). Classroom management needs of novice teachers. *The Clearing house: a Journal of eduCaTional sTraTegies, issues and ideas*, *95*(1), 26-34.
95. Shin, M., & Johnson, Z. D. (2021). From student-to-student confirmation to students' self-determination: An integrated peer-centered model of self-determination theory in the classroom. *Communication Education*, *70*(4), 365-383.
96. Simón, C., Muñoz-Martínez, Y., & Porter, G. L. (2021). Classroom instruction and practices that reach all learners. *Cambridge Journal of Education*, *51*(5), 607-625.
97. Stout, S. K. (2023). *Distracted, bored, and disengaged: How to reengage Gen Z learners in the secondary school classroom* (Doctoral dissertation, The University of North Dakota).
98. Tan, M., & Demszky, D. (2023). Sit down now: How teachers' language reveals the dynamics of classroom management practices.
99. Tian, M., Lu, G., Li, L., & Yin, H. (2021). International undergraduate students in Chinese higher education: An engagement typology and associated factors. *Frontiers in Psychology*, *12*, 680392.
100. Toma, F., Ardelean, A., Grădinaru, C., Nedelea, A., & Diaconu, D. C. (2023). Effects of ICT integration in teaching using learning activities. *Sustainability*, *15*(8), 6885.
101. Ullah, A., & Anwar, S. (2020). The effective use of information technology and interactive activities to improve learner engagement. *Education Sciences*, *10*(12), 349.

102. Vermeulen, E. J., & Volman, M. L. (2024). Promoting student engagement in online education: Online learning experiences of Dutch university students. *Technology, Knowledge and Learning*, *29*(2), 941-961.
103. Villaluz, A. V., & Lagunday, R. (2025). Classroom Management and Learners' Academic Performance.
104. Wang, J., Tigelaar, D. E., Luo, J., & Admiraal, W. (2022). Teacher beliefs, classroom process quality, and student engagement in the smart classroom learning environment: A multilevel analysis. *Computers & Education*, *183*, 104501.
105. Wang, Y., Cao, Y., Gong, S., Wang, Z., Li, N., & Ai, L. (2022). Interaction and learning engagement in online learning: The mediating roles of online learning self-efficacy and academic emotions. *Learning and Individual Differences*, *94*, 102128.
106. Watene, D. (2020). Influence of Teachers' Professional Development on Performance in Kenya Certificate of Secondary Education in Public Secondary Schools in Nyandarua County, Kenya.
107. Zhang, Z. V., & Hyland, K. (2022). Fostering student engagement with feedback: An integrated approach. *Assessing Writing*, *51*, 100586.
108. Zheng, Y., Zhong, Q., Yu, S., & Li, X. (2020). Examining students' responses to teacher translation feedback: Insights from the perspective of student engagement. *Sage Open*, *10*(2), 2158244020932536.