E-LEARNING APPROACH AND ITS INFLUENCE TO TEACHERS' COMPETENCE AND STUDENTS' ACADEMIC ACHIEVEMENT

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APPROVAL SHEET

In partial fulfillment of the requirements for the degree in **MASTER OF ARTS IN EDUCATION** major in **ELEMENTARY EDUCATION**, this thesis entitled **"E-LEARNING APPROACH AND ITS INFLUENCE TO TEACHERS' COMPETENCE AND STUDENTS' ACADEMIC ACHIEVEMENT"** has been prepared and submitted by **IRIS Q. MALABARBAS** who, having passed the comprehensive examination, is hereby recommended for oral examination

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ABSTRACT

The integration of e-learning approaches has emerged as a transformative force, revolutionizing the dynamics of teaching and learning. This thesis delves into the multifaceted impact of e-learning on both teachers' competence and students' academic achievement.

The research embarks on a comprehensive exploration of the relationship between e-learning adoption and teachers' competence. Through surveys, it scrutinizes how e-learning influences educators' pedagogical skills, technological proficiency, and overall instructional effectiveness. Findings reveal a direct correlation between the incorporation of e-learning methods and teachers' capacity to engage students, facilitate interactive learning experiences, and adapt to the digital educational landscape.

Simultaneously, the thesis investigates the effects of e-learning on students' academic achievement. A substantial body of evidence, gathered through academic performance data and student feedback, demonstrates that e-learning initiatives lead to improved learning outcomes. Students engaged in e-learning exhibit higher levels of motivation, self-directed learning, and academic success. The flexibility, accessibility, and diverse resources provided by e-learning have proven to be catalysts for enhanced academic achievement.

The result also underscores the transformative potential of e-learning in the educational sphere but also calls attention to the need for ongoing professional development and technological infrastructure to maximize its benefits. It ultimately underscores the critical importance of e-learning in shaping the competence of

teachers and fostering academic achievement among students, pointing the way toward a more dynamic and responsive educational future.

Key words: e-learning, Teacher's Competence, Academic Achievement

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THE PROBLEM AND ITS BACKGROUND

Introduction

The impact of the pandemic has been far-reaching, reshaping almost every facet of people's lives and altering individual perspectives across multiple domains. The educational sector has been no exception, undergoing a substantial transformation in response to the global crisis. Traditional modes of learning have given way to innovative learning modalities, primarily leveraging technology to adapt to the current health crisis. The digital platform has emerged as a vital solution for educational institutions to fulfill their mandate of educating learners.

The suspension of face-to-face classes due to the threat of COVID-19 prompted the Department of Education to propose online classes and eLearning, despite the challenges faced by many Filipinos who lack access to such resources. This shift allowed students to engage with learning at their own convenience through the e-learning approach, which Muruthy and Yamin (2017) defines as the delivery of learning and training via digital resources. E-learning utilizes electronic devices, including computers, tablets, and internet-connected mobile phones. The English subject, known for its complexity, has presented challenges for many students.

E-learning, a formalized teaching approach utilizing electronic resources, is now a fundamental component of the education system (Alsoud & Harasis, 2021). This approach combines in-class and online learning, making use of computers and

the internet as its primary elements. E-learning is characterized by its capacity to deliver knowledge and skills to a broader audience, and it can be synchronous or asynchronous (Ahmed & Al-Kadi, 2021)While initially met with skepticism due to its perceived lack of a human touch in the learning process, e-learning has gained widespread acceptance with advancements in technology. The introduction of computers, smartphones, and tablets has revolutionized classroom learning (Arkorful & Abaidoo, 2020). Educational technologies are transforming higher education, incorporating e-learning environments and learning management systems for both individual and collaborative learning. The e-learning approach plays a vital role in helping students explore and comprehend various English-related concepts and relationships (Erfani & Ghapanchi, 2019).

Meanwhile, despite the Philippines' relatively high English proficiency, as reported by CNN in December 2020, ranking 27th out of 100 countries with "High Proficiency," there is still room for improvement in enhancing English-related skills among students (Dotong, 2021). English is a core subject and often proves challenging, even in traditional face-to-face classes. The enactment of Republic Act (RA) 10650, commonly referred to as the 'Open Distance Learning Act,' underscores the commitment to expand and democratize access to high-quality tertiary education and technical educational services in our country by promoting open learning services. Under the provisions of RA 10650, higher educational institutions (HEIs) and technical-vocational courses in the Philippines are striving to provide accessible, high-quality education through the use of open educational resources (OER) and the delivery of learning materials via diverse mediums,

including print, audio-visual resources, electronic and virtual classrooms, as well as face-to-face sessions.

Even primary and secondary schools are drawing inspiration from this law, adapting its principles to meet their specific requirements and capabilities. Additionally, the Department of Education has expressed its intention to explore the use of radio and television for disseminating educational materials, acknowledging that not all students have access to computers and the internet (Lorenzo, 2016). These initiatives collectively represent our commitment to ensuring continued education in the face of unprecedented challenges.

E-Learning has seamlessly integrated into our educational system, marking a transformative shift. However, its intricate impact on both teachers' competence and students' academic achievement raises pertinent concerns (Krasnova & Shurygin, 2019). The challenges linked to E-Learning encompass a multitude of facets, including the pressing digital divide, the adaptability of teachers to online instructional methods, and the efficacy of these digital approaches in maintaining student engagement (Kintu, et al. 2017).

In the District of Motiong, the past few years have witnessed a remarkable upsurge in E-Learning adoption, primarily fueled by advances in technology and the unforeseen impact of the COVID-19 pandemic. While the Department of Education has made commendable efforts to bridge the digital gap through initiatives like the DepEd Computerization Program, there remains a tangible struggle. This initiative, while striving to infuse flexibility and access to a wide spectrum of educational resources, brings forth its own set of challenges.

These challenges are most acutely felt in the 12 elementary schools within our district that are yet to benefit from the Computerization Program (District Promeds, 2021). Their absence from this program significantly impedes both students and teachers in accessing essential digital devices and resources, amplifying the disparity in our educational landscape.

The lack of progress in teaching methods, particularly the integration of technology into the teaching-learning process, poses a significant obstacle to students' academic achievement. In today's educational landscape, students have diverse learning opportunities facilitated by the latest technologies. Unfortunately, the District of Motiong also faces concerning challenges, especially during the pandemic, impacting students' academic performance.

District data for the academic years 2019-2020, 2020-2021, and 2021-2022 indicate a noticeable decline in the average grade range for Grade 6 students. The range was set at 15 in 2019-2020, reduced to 14 in 2020-2021, and experienced a further decrease to 17 in 2021-2022. This trend highlights the urgency for improvement in teaching methodologies, especially given the transformative potential of technology in the classroom.

Addressing the diminishing average grade range of Grade 6 students underscores the need for proactive measures by educators. It is crucial for teachers to embrace innovative teaching methods and leverage technology to enhance the learning experience. This shift will not only contribute to academic progress but also empower students to navigate their education more effectively, even in challenging circumstances such as the ongoing pandemic.

While recognizing the commendable efforts made in the implementation of current school initiatives, it is imperative to acknowledge that certain inadequacies in the development, provision, and utilization of electronic resources have surfaced within academic institutions. Several researches work and a multitude of studies have sought solutions to these challenges, specifically concerning the development of electronic information resources and computer-based classes across various educational institutions (Kesharwani, 2019).

However, it is noteworthy that relatively limited attention has been devoted to identifying and understanding the influence and impact of e-learning on the academic performance of high school students within high school learning institutions (Holmes & Prieto-Rodriguez, 2018). Given the increasing prevalence of e-learning within both elementary and secondary education, it is paramount to delve into the implications this teaching method has on students' academic excellence.

This study serves as a significant step in addressing this knowledge gap and contributes valuable insights into the role of e-learning in educational institutions, particularly among Grade 6 learners. Exploring the impact of e-learning on academic performance, this research endeavor aims to enrich the understanding of the dynamics between technology-based teaching and students' scholastic achievements.

Statement of the Problem

This study delved into the influence of the e-learning approach on teachers’ competence and students’ academic achievement among teachers and

Grade 6 learners in the District of Motiong, Schools Division of Samar with the end output of crafting an intervention during the School Year 2022-2023

Specifically, the study sought answers to the following questions:

1. What is the profile of the teacher-respondents in terms of the following variates:

1.1 age and sex;

1.2 civil status;

1.3 highest educational attainment;

1.4 teaching position;

1.5 gross monthly family income;

1.6 number of years in teaching;

1.7 performance rating based on the latest IPCRF;

1.8 types of technology literacy tools used in teaching;

1.9 relevant in-service trainings attended; and

1.10 attitude toward e-learning approach?

2. What is the profile of the student-respondents in terms of the following variates:

2.1 age and sex;

2.2 parents' highest educational attainment;

2.3 parents' occupation;

2.4 gross monthly family income;

2.5 types of technology used in learning; and

2.6 attitude toward the e-learning approach?

3. What is the level of implementation with regard to the e-learning approach based on the perception of the two groups of respondents along the following areas:

3.1 challenges of e-learning;

3.2 benefits of e-learning;

3.3 attitude to using computer systems; and

3.4 leisure interest in e-learning innovations and use of computers?

4. Is there a significant difference between the perceptions of student and teacher respondents in terms of implementation of the e-learning approach?

5. Is there a significant relationship between the profile variates of the teacher and student respondents and their level of perceptions on e-learning?

6. What is the level of teaching competence of the teacher-respondents along the following?

6.1 planning;

6.2 development; and

6.3 result?

7. Is there a significant relationship between the personal variates of teacher and student respondents with regard to:

7.1 perception on e-learning; and

7.2 teachers' competence?

8. What is the level of academic performance of Grade 6 students based on their final rating during School Year 2021-2022?

9. Is there a significant relationship between the personal variates of the learners' respondents along:

9.1 academic performance; and

9.2 perception of the e-learning approach?

10. What intervention program can be derived based on the findings of the study?

Hypotheses

From the aforecited specific questions, the following null hypothesis were drawn and tested in this study:

1. There is no significant difference between the perceptions of student and teacher respondents in terms of implementation of the e-learning approach.

2. There a significant relationship between the profile variates of the teacher and student respondents and their level of perceptions on e-learning.

3. There is no significant relationship between the personal variates of teacher and student respondents with regard to:

3.1 perception on e-learning; and

3.2 teachers' competence.

4. There a significant relationship between the personal variates of the learners' respondents along:

4.1 academic performance; and

4.2 perception of the e-learning approach.

Theoretical Framework

This study drew on three key theoretical frameworks to guide its research: The Achievement Goal Theory by Wigfield and Eccles (2000), the Job-Demands Resources Theory by Demerouti et al. (2001), and the Expectancy Value Theory

by Atkinson (1957). Each of these theories provides valuable insights into the relationships explored in this study.

The Achievement Goal Theory posits that students' goals for engaging in a learning task significantly impact their achievement-related processes and outcomes. It categorizes these goals into mastery, performance, and performance-avoidance goals. Mastery goals focus on competence development, performance goals emphasize showcasing competence, and performance-avoidance goals aim to avoid social judgment and humiliation (Wigfiled & Eccles, 2000). This theory has been associated with various outcomes such as student engagement, academic achievement, and student satisfaction.

In the context of this study, the Achievement Goal Theory provides a framework to examine the various goals students and teachers may have when engaging with the e-learning approach. Students may have mastery goals, aiming to enhance their competence in the online learning environment. Teachers may set performance goals related to effectively delivering e-learning, and they may need to manage performance-avoidance goals related to concerns about the adaptability of this approach. The study can investigate how these different goals influence the competence of both teachers and the academic achievement of students.

The Job Demands-Resources Theory (JD-R) initially applied in the workplace context examines how demands and resources can affect performance. Job demands encompass physical, psychological, social, or

organizational aspects that require effort and are associated with a cost. Job resources, on the other hand, reduce demands and stimulate personal growth and development (Demerouti, 2001). When applied to the educational context, it helps analyze the specific demands placed on students and teachers and the resources they need to meet these demands. These perceptions are believed to significantly impact the teaching-learning process, academic achievement, and course satisfaction.

The Job-Demands Resources Theory helps in analyzing the demands and resources in the context of e-learning. It allows for the examination of the demands placed on both teachers and students as they adapt to the e-learning environment. These demands could include technological challenges, pedagogical adjustments, and the need for self-directed learning. The theory also emphasizes resources that can support teachers' competence and students' academic achievement. For instance, appropriate training and support can be considered as resources that aid in e-learning effectiveness.

The Expectancy-Value Theory, grounded in the social cognitive view of motivation, suggests that individuals' choices, persistence, and effort in a task can be predicted by their beliefs about their performance and the value they place on the task. It emphasizes that individuals are more likely to pursue an activity if they expect success and value it (Atkinson, 1957). Task value comprises components like attainment value, intrinsic value, utility value, and cost. These expectations and values are shaped by individual characteristics and environmental factors.

The Expectancy-Value Theory can be applied to understand the motivation and perceptions of both teachers and students concerning the e-learning approach. It can help examine their expectations for success in this new mode of education and the value they attach to it. For teachers, it can be used to explore how they perceive the potential benefits and challenges of e-learning and how these perceptions affect their competence. For students, it can be used to investigate their expectations for success and the value they place on achieving academic excellence through e-learning. This theory can be employed to understand the factors that drive motivation and influence academic achievement in the e-learning context.

These three theories collectively provided a comprehensive framework for understanding the relationships between the e-learning approach, teachers' competence, and learners' achievement. They offer valuable insights into how these variables interconnect and influence each other within the scope of this study.

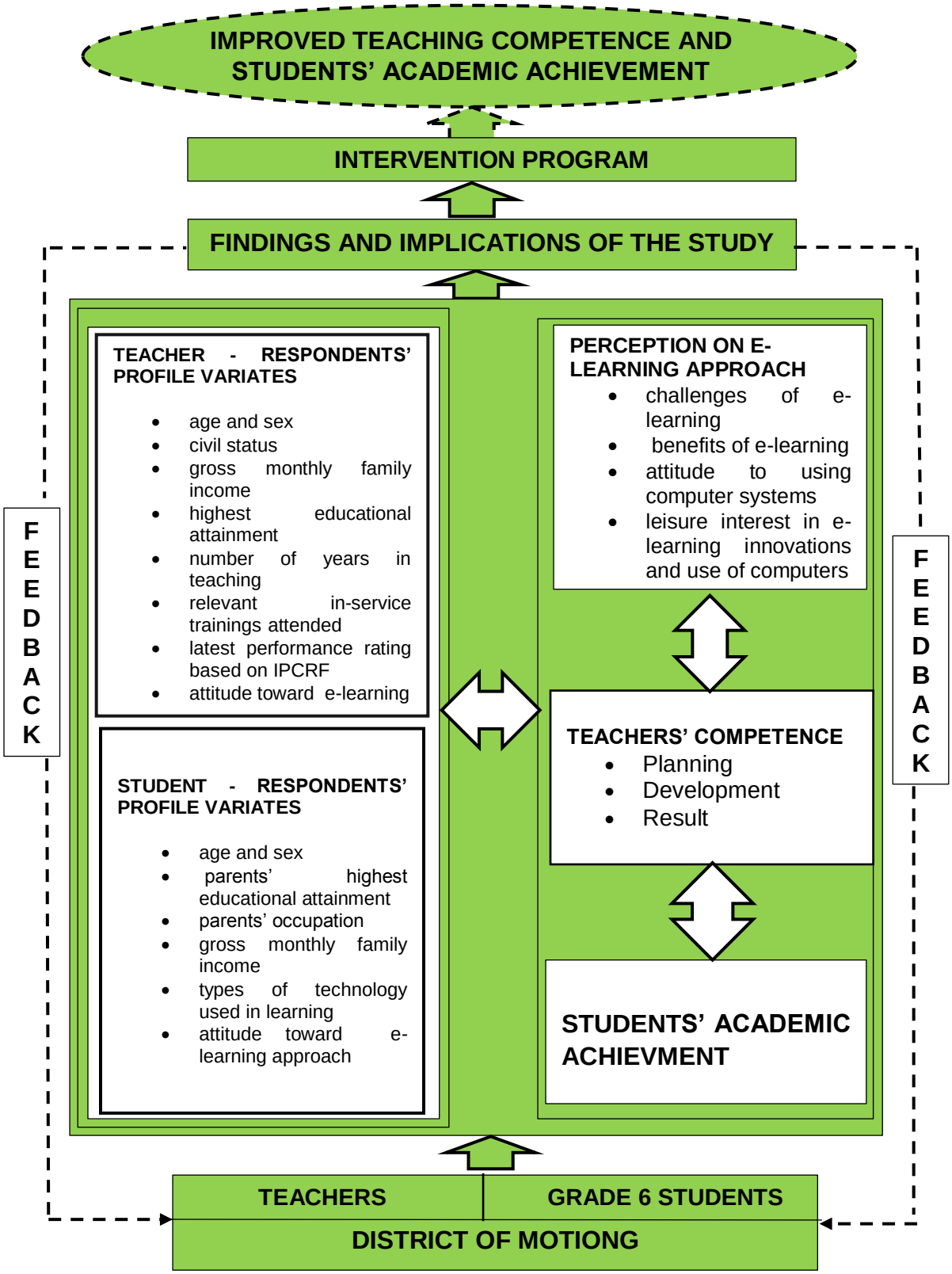
Conceptual Framework

Figure 1 presents the visual representation of the conceptual framework for the current study, outlining the study's flow and components. At its foundation are the study's participants, comprising Grade 6 learners and teachers in the District of Motiong, Schools Division of Samar, during the School Year 2022-2023. The upward-pointing arrowhead signifies the directional progression of the framework.

The study employs a descriptive research design to capture the profiles of the teacher-respondents, encompassing characteristics such as age, gender,

Figure 1

The Conceptual Framework of the Study



civil status, gross monthly family income, educational attainment, teaching experience, relevant in-service training attended, performance rating based on the latest IPCRF, and their attitude towards e-learning. Similarly, it profiles Grade 6 student-respondents, considering age, gender, parents' educational background, parental occupation, family income, types of technology used for learning, and their attitude toward the e-learning approach.

Furthermore, the study employs a descriptive research design to evaluate the perceptions of both teachers and students regarding the e-learning approach. This encompasses an assessment of the challenges and benefits associated with e-learning, their attitude toward computer systems, and their interest in leisure learning innovations and computer use, depicted in the upper smaller frame to the right within the larger frame. The study also assesses teacher-respondents' competence in planning, development, and results, as indicated in the smaller frame at the center of the larger frame. Additionally, it gauges the academic achievement of Grade 6 learners, displayed in the lower smaller frame to the right within the larger frame.

To ascertain the relationship between respondents' perceptions of the e-learning approach, teacher competence, learner academic achievement, and their personal attributes, a correlation analysis will be conducted, as indicated by the double-headed arrow pointing towards the study's variables.

The study's findings, housed in the third upper frame, will yield valuable insights that inform the design of an intervention program, depicted in the fourth upper frame. This program aims to enhance the teaching competence of

teachers and improve the academic achievement of learners, as represented in the topmost frame of the schema.

The dashed loops on either side of the larger frame, connecting the third upper frame to the foundational base frame, symbolize effective feedback mechanisms that will help fulfill the study's objectives and contribute to ongoing educational enhancement.

Significance of the Study

The findings of this study would benefit the school administrators, teachers, students, DepEd Key Officials, ICT Coordinators, Curriculum Planners, and future researchers.

To the School Administrators. School administrators would gain insights into the impact of e-learning on both teachers' competence and students' academic achievement. This knowledge could inform decision-making and resource allocation for e-learning initiatives, helping in the development of effective strategies and policies. The findings could guide them in providing necessary support and training to teachers and students to maximize the benefits of e-learning.

To the Teachers. Teachers stand to benefit by understanding how e-learning influences their competence and the academic achievement of their students. The study could provide valuable information on the challenges and benefits associated with e-learning, which could guide teachers in adapting their teaching methods to suit the e-learning environment. Teachers could also gain insights into the factors that contribute to their competence and student success in this context.

To the Students. Students would benefit from a more effective e-learning experience if the study identifies the key factors that influence their academic achievement. Understanding the challenges and benefits of e-learning could help students make the most of this educational approach. Additionally, findings related to teachers' competence can indirectly impact the quality of education students receive.

To the ICT Coordinators. ICT coordinators would play a crucial role in implementing and maintaining the technology infrastructure for e-learning. This study could provide them with insights into the specific needs and challenges faced by teachers and students in the e-learning environment, enabling them to tailor their support and resources accordingly.

To the Curriculum Planners. Curriculum planners could use the study's findings to adapt and design curriculum materials that align with the e-learning approach. Understanding how e-learning affects students' academic achievement and teachers' competence could lead to more effective curriculum development, ensuring that it caters to the needs of both educators and learners in an online setting.

To the DepEd Key Officials. Key officials within the Department of Education (DepEd) would find this study highly relevant as it could inform policy and program development related to e-learning. The study's findings could shape the direction of e-learning initiatives and help officials understand how to support teachers and students effectively.

To the Future Researchers. This study would serve as a reference and foundation for future research endeavors related to e-learning and its impact on

education. Researchers could build upon the findings and methodology of this study to delve deeper into specific aspects of e-learning, fostering continuous academic exploration and knowledge expansion in this field.

Scope and Delimitation of the Study

This comprehensive study delved into the impact of e-learning on teachers' competency and Grade 6 students' academic achievement in the District of Motiong, Schools Division of Samar during the academic year 2022-2023.

It aimed to achieve several objectives: Firstly, to examine teachers' personal characteristics, including age, gender, marital status, family income, educational background, teaching experience, in-service training, performance evaluations, and attitudes towards e-learning. Concurrently, it analyzed Grade 6 students' attributes such as age, gender, parental educational backgrounds, occupations, family income, technology usage for learning, and attitudes towards e-learning.

The study also assessed both teachers' and students' perceptions of e-learning, exploring challenges, benefits, attitudes towards computer usage, and interest in e-learning innovations for educational purposes. It critically evaluated teachers' competence in planning, developing, and achieving outcomes in e-learning contexts.

The study was conducted during the School Year 2022-2023.

Definition of Terms

In order to have a clearer understanding of the study, the following terms

were conceptually and operationally defined.

Academic Achievement. Conceptually, it refers to the overall performance and learning outcomes of students in a specific educational context, often measured by their acquisition of knowledge, skills, and competencies in a particular subject or curriculum (Joshi, 2012). Operationally, it can be quantitatively assessed through standardized test scores, grade point averages, or other objective metrics that reflect a student's level of mastery in a given subject or area of study.

Attitude to Using Computer System. Conceptually, it pertains to an individual's disposition, beliefs, and emotional orientation towards the utilization of computer technology for various purposes, including education, work, and personal activities (Radu et al. 2011). Operationally, it can be measured through self-report surveys or questionnaires that gauge an individual's willingness, comfort, and interest in using computer systems, along with their perceptions of the utility and ease of use of such technology.

Benefit of e-learning. Conceptually, it encompasses the positive outcomes and advantages derived from the utilization of electronic or online learning methods, including increased accessibility, flexibility, engagement, and enhanced learning experiences (Patra et al. 2022). Operationally, it can be identified by assessing improvements in student performance, learning engagement, and satisfaction through data analysis, surveys, or qualitative feedback.

Challenge of e-learning. Conceptually, it encompasses the barriers, difficulties, and hindrances that learners, educators, and institutions may

encounter when implementing or participating in electronic or online learning, such as technical issues, lack of face-to-face interaction, and self-motivation challenges (Gilbert, 2015). Operationally, it can be identified by gathering data on issues faced by learners and educators through surveys, interviews, or analysis of relevant institutional reports.

Development. Conceptually, it refers to the process of growth, progress, and advancement, often indicating the creation or refinement of systems, strategies, or skills in various domains (Mosteanu, 2021). Operationally, it can be measured by assessing the extent of change, improvement, or expansion within a specific context, such as educational development programs for teachers.

E-learning Approach. Conceptually, it represents a method of teaching and learning that relies on electronic or online resources and technologies to deliver educational content, promote engagement, and facilitate the acquisition of knowledge and skills (Joshua et al. 2016). Operationally, it can be identified by the consistent use of digital platforms, tools, and resources for instructional purposes within an educational setting.

Individual Performance Commitment and Review Form (IPCRF). Conceptually, it is a structured evaluation and goal-setting framework used in organizations and institutions, typically in the education sector, to assess an individual's performance, set objectives, and track professional development (Usoro & Majewski, 2009). Operationally, it is a standardized document that outlines specific performance expectations, goals, and criteria for evaluating an individual's work performance within a defined time frame, often filled out by employees and reviewed by supervisors.

Intervention. Conceptually, it denotes a deliberate and structured action or strategy introduced to bring about positive changes, improvements, or solutions in a given situation or context (Jalilinia, 2021). Operationally, it can be characterized by the implementation of specific measures, such as training programs, support services, or policy changes, aimed at addressing identified issues and achieving desired outcomes.

Leisure Interest in e-learning and Use of Computer. Conceptually, it represents an individual's inclination and curiosity to engage in online learning and explore computer-related innovations during their free time or recreational activities. Operationally, it can be gauged through surveys or self-report assessments that inquire about individuals' preferences, motivations, and activities related to online learning and computer exploration during leisure hours.

Planning. Conceptually, it signifies the process of devising a systematic and organized strategy or blueprint for accomplishing specific goals and objectives, typically involving the allocation of resources and the sequencing of tasks (Rojabi, 2022). Operationally, it is evident in the creation and execution of detailed action plans, schedules, and resource allocation strategies, often in educational contexts for curriculum development or project implementation.

Result. Conceptually, it refers to the outcomes, achievements, or consequences that emerge as a direct or indirect effect of actions, decisions, or processes, reflecting the realization of intended goals or objectives (Mahmoudi, 2020). Operationally, it is quantitatively or qualitatively assessed through data analysis, performance metrics, or evaluative criteria that provide evidence of the impact or consequences of a particular initiative or action.

Teacher's Competence. Conceptually, it encompasses the comprehensive skills, knowledge, and capabilities that educators possess to effectively plan, deliver, and assess educational content, thereby facilitating the academic development and success of their students (Oraif & Elyas, 2021). Operationally, it can be evaluated by considering various factors, including pedagogical skills, subject matter expertise, classroom management, adaptability to different teaching methods, and the ability to engage students in the learning process, often through classroom observations, self-assessment, and student performance data.

Chapter 2

REVIEW OF RELATED LITERATURE AND STUDIES

This chapter offers an extensive synthesis of existing literature and research studies, contributing valuable insights and knowledge that form the cornerstone upon which the foundation of this study is constructed.

Related Literature

This section presents citations sourced from books, magazines, and other published materials including electronic sources.

The integration of e-learning has significantly expanded and transformed the landscape of teaching and learning in higher education (Filimban, 2018). E-Learning, as defined by Zaid (2019), encompasses a broad range of technology-enhanced learning (TEL) approaches, where technology plays a pivotal role in supporting the learning process. This transformation has not only been observed but also harnessed by numerous educational institutions, resulting in substantial positive impacts and a distinct position in the academic realm (Sahin & Thompson, 2017).

The impact of e-Learning on students is a topic of varied experiences. Some students who engage in e-Learning exhibit improved learning performance and positive attitudes (Kirby et al., 2017). Conversely, there are students who have reservations about E-Learning, citing difficulties in usage, high workloads, limited technological skills, and the absence of face-to-face interactions as challenges (Picciano, 2012).

To establish a comprehensive understanding of effective e-Learning, a comprehensive review of existing literature, combined with best practices in traditional and online teaching, is essential. Effective e-learning environments are characterized by several key factors. These include instructors who actively engage in quality course design and delivery (Wright & Lawson, 2015), employ appropriate assessment strategies (Siragusa, 2012), foster collaboration among students (Garrison & Anderson, 2013), and employ suitable teaching methods tailored to meet the diverse needs of students. Furthermore, technical support for teachers is imperative to seamlessly integrate instructional activities into the e-learning system (Zhao, 2017; Hayes, 2017).

In e-learning environments, students are empowered to take charge of their own learning journey, gain valuable experience with technology, build connections with peers, enhance critical thinking skills, and apply them to real-life scenarios. Additionally, they gain a deeper understanding of themselves and the world around them while mastering the course materials (Filimban, 2018). Furthermore, e-Learning enables students to choose when and where they study, freeing tutors from traditional lecturing and expanding the reach of educational offerings globally (Anderson, 2011).

E-Learning has experienced substantial growth in higher education due to the rapid evolution of internet technologies. The use of information and communication technology to augment teaching and learning is collectively referred to as e-learning (Oye, Iahad, & Al., 2017). This approach has provided universities with a competitive edge, impacting student performance and GPAs positively. However, the effectiveness of e-learning can vary, with some

institutions offering low-interactivity e-learning, while others provide highly interactive e-Learning, which significantly improves student performance (Rogers, 2018).

Advancements in information and communication technologies (ICTs) have profoundly influenced various sectors, including education. In higher education, the adoption of e-learning, facilitated by ICTs, has revolutionized teaching and learning processes. Several factors have driven this adoption, including increased information accessibility, enhanced communication via electronic tools, synchronous learning opportunities, greater cooperation and collaboration, cost-effectiveness, and pedagogical improvements through simulations, virtual experiences, and graphic representations (Fisser & Fellicciione, 2018). This flexible approach allows both educators and learners to choose applications that are tailored to specific domains and are cost-efficient, enabling learning that is personalized, reusable, and adaptive to individual needs.

The rapid development of computer and internet technologies has elevated e-Learning to a critical learning method. Multimedia instructional materials have gained prominence due to their ability to capture learners' attention and interest. However, it's important to note that multimedia content alone does not guarantee significant positive learning outcomes and satisfaction. Designing effective multimedia instructional content can be expensive, making it crucial to explore the impact of content and media fitness on learner performance and satisfaction (Sun & Cheng, 2017).

The acceptance and use of new technologies, particularly in the context of e-learning, have been extensively studied over the past two decades. The technology acceptance model (TAM) and its successor, TMA2, have received considerable attention. e-learning systems, such as virtual learning environments (VLEs), are designed to support and enhance individual study processes by offering repositories for course materials, discussion forums, chat features, and more. Although the number of studies on VLE acceptance is relatively small, it is steadily growing (Van Raaij & Schepers, 2018).

Web-based learning encompasses various approaches, with a focus on online classes offered by higher education institutions. Web-based learning leverages material delivered via web browsers over the public internet, private intranets, or extranets. The success of web-based learning primarily hinges on learners' loyalty, i.e., their continued usage and engagement (Chao Min Chiu & Wang, 2018).

The integration of technology into education has seen the rise of Computer Assisted Learning (CAL) systems. The use of email, multimedia technology, and intelligent tutoring systems on campuses has become increasingly popular. College professors commonly use email for student communication, and a significant portion of college courses utilize CAL technology (Green, 2016).

Moreover, the majority of college and university students own computers and wireless devices, using the internet to enhance their learning experiences and save time. The internet's growing prevalence has prompted educational

institutions to invest significantly in e-Learning initiatives to enhance efficiency and skill development (Sun et al., 2017).

Sound instructional practices extend beyond distance education courses and are essential in fostering communities of practice (Salmon, 2015). Students engaged in higher education through distance learning require opportunities to connect and actively engage with their peers, even if they have never met in person. Distance education activities should enable students to apply their learning to real educational contexts (Correia & Davis, 2018).

Effective e-learning in education requires a multifaceted approach that combines quality course design, technical support for educators, student empowerment, and adaptability to technological advancements. E-Learning has revolutionized teaching and learning in higher education, driven by advancements in information and communication technologies and the need for flexible, cost-effective, and personalized learning experiences. Furthermore, the acceptance and utilization of e-learning technologies, combined with sound instructional practices, contribute to the effectiveness of e-learning in higher education.

Furthermore, e-learning, a technology-driven approach to education, has revolutionized learning by enabling students to access educational content through digital means. The use of interactive platforms, such as computers, the internet, multimedia, and simulated environments, has reshaped the educational landscape by enhancing learning speed and accessibility (Gautam & Tiwari, 2016). Mikropoulos' research has highlighted the positive influence of e-learning on students' academic performance, emphasizing the potential for improved

learning outcomes (Mikropoulos et al., Year). Similarly, Salloum et al. (2019) found that the use of ePortfolios led to enhanced student engagement, mood, and ultimately, academic achievement within e-learning environments. Additionally, Galy et al. (2017) observed that students trained with multimedia techniques exhibited higher retention rates compared to those taught using traditional methods. These findings collectively underline the positive impact of e-learning on instructional success.

Contemporary teaching and learning theories have shifted the focus from teacher-centered to student-centered approaches. Furthermore, advancements in communication technologies have transcended the constraints of time and space, enabling modern learners to access education at their convenience (Misra, 2017).

The quality of Information and Communication Technology (ICT) infrastructure plays a crucial role in determining the success of e-learning initiatives in enhancing students' academic achievement (Niyazazari & Hosseini, 2017). The globalized world of today has witnessed the transformative influence of ICT in various academic disciplines and faculties, resulting in significant improvements in student performance (Zameni et al., 2017). The integration of advanced multimedia ICT tools into teaching and learning processes, as confirmed by Najafi (2016), further underscores the effectiveness of these technologies in modern educational systems.

Interactive ICT-based teaching methods stimulate students' interest in acquiring knowledge and empower them to apply this knowledge to real-world challenges (Mahdinejad & Amoii, 2019). The integration of various ICT tools,

including desktop and personal computers, laptops, the internet, and multimedia, has accelerated learning processes. It has transformed the roles of both teachers and learners, fostering interactive and self-paced learning while boosting learner autonomy and self-confidence (Zameni & Kardan, 2019).

The application of ICT in education emphasizes the transformative power of technology to facilitate effective engagement, enhance learning, and adapt teaching methods to individual student needs (Qaznavi, 2020). It enables students to have control over their learning schedules and025 pace, facilitating interactions between learners, materials, and educators. Incorporating multimedia elements, abstract concepts become more accessible and comprehensible, eliminating the limitations of traditional teaching methods, time, and space constraints.

Generally, e-learning and ICT have redefined education by offering flexible, interactive, and learner-centric approaches that have the potential to enhance students' academic achievement. The integration of technology into the learning process empowers students to take control of their education, promotes engagement, and facilitates the comprehension of complex concepts, ultimately contributing to improved academic outcomes (Lorrain, 2017).

The various pieces of literature discussed in this part focused on the concept of the e-learning approach and how it corresponds to academic achievement. The array of literature provided a concrete basis for how related e-learning and academic achievement are.

Related Studies

The comparison of the commonalities and differences between the earlier

studies on the e-learning approach, teaching competence, and academic achievement and the present study is the main topic of discussion in this part.

Mahruf and Shohel (2022) conducted a study entitled, “E-Learning and Digital Education in the Twenty-First Century” provided insights into the extent to which online learning had led to remarkable improvements in students' academic achievements. Furthermore, the research aimed to ascertain whether there were substantial changes in students' e-learning competence resulting from their engagement in online education. The study also shed light on the impact of e-learning and digital education in the twenty-first century, offering valuable insights into how online teaching and learning activities influenced students' academic achievements and their overall competence in e-learning.

Mahruf and Shohel's study, like the current research, delves into the impact of e-learning in academia. Both studies extensively explore the effects of online teaching and learning, highlighting the significance of technology in modern education.

While Mahruf and Shohel focus specifically on how online teaching and learning influence student academic achievement, covering aspects such as research strategies, information sources, and peer collaboration, their research methods involve descriptive and parametric analyses to measure these effects. They aim to determine the extent to which online learning improves academic performance and enhances e-learning competence. In contrast, the present study takes a broader approach, examining various implications of e-learning approaches. It addresses not only the improvement of teachers' competence but

also the enhancement of students' academic achievements, exploring how e-learning methods impact different aspects of education.

ArslanRaheem et al., (2021) in their study entitled, “Impact of ICT on Academic Achievement of Students” indicated several important insights. Female teachers were observed to have higher performance levels when using information technology in their classrooms. In contrast, male teachers displayed a more positive attitude toward using information technology and were found to be more competent in applying information technology compared to their female counterparts. The study also highlighted that teachers' experience significantly impacted the challenges they faced when using information technology in their teaching practices. Based on these findings, the study recommends empowering teachers with ICT training to enhance their performance and facilitate their integration into the modern era of education. This implies that providing teachers with the necessary skills and knowledge related to ICT could result in more effective and proficient use of technology in the classroom, benefiting both teachers and students.

Arslan Raheem et al., study primarily evaluates the impact of Information and Communication Technology (ICT) on academic achievement and teachers' readiness to integrate ICT in elementary-level classrooms. It emphasizes gender differences in performance, attitude, and competence among teachers when using information technology. The study also highlights the importance of teachers' experience in overcoming challenges related to ICT integration, advocating for empowering educators through ICT training.

In contrast, the present study likely takes a broader perspective, potentially exploring the wider influence of e-learning approaches on both teachers' competence and students' academic achievements. While specific findings from this study are not provided, it seems to delve into various dimensions of how e-learning shapes the educational landscape.

Encarnacion, et al., (2021) conducted a study entitled, “The Impact and Effectiveness of e-learning on Teaching and Learning” revealed that teachers and students generally held similar perceptions of e-learning. Both groups provided higher ratings for e-learning in terms of the five established criteria of effectiveness. This consensus suggests that e-learning was viewed favorably by both teachers and students as an effective tool for enhancing instructional delivery and facilitating the development of knowledge acquisition skills through the transfer of learning. In essence, the study indicated that e-learning was well-received by both educators and students, emphasizing its positive impact on the teaching and learning process.

Encarnacion et al., study and the present study both share an interest in exploring the role of e-learning in education. However, they differ in their specific focuses and research methods.

Encarnacion et al., aimed to evaluate the impact and effectiveness of e-learning on teaching and learning by assessing teacher and student experiences. They used a mixed methodology, including an online survey and establishing five criteria to evaluate e-learning. Their findings showed a consensus among teachers and students regarding the effectiveness of e-learning, suggesting it enhances instructional delivery and knowledge acquisition. In contrast, the

present study appears to have a broader scope, investigating the influence of e-learning approaches on both teachers' competence and students' academic achievement. While specific findings are not provided, it likely explores various aspects of how e-learning impacts education.

A study conducted by Pate (2019) entitled, “Effect of Digital-learning on Academic Achievement of Secondary School Students” indicated that there was no significant difference in academic achievement between male and female students. In other words, the research did not identify a substantial gender-based gap in academic performance when it came to the use of digital learning methods. This finding suggests that digital learning had a relatively similar impact on the academic achievement of both male and female students in the context of the study.

Encarnacion et al., study and the present study both share an interest in exploring the role of e-learning in education. However, they differ in their specific focuses and research methods. Encarnacion et al., aimed to evaluate the impact and effectiveness of e-learning on teaching and learning by assessing teacher and student experiences. They used a mixed methodology, including an online survey and establishing five criteria to evaluate e-learning. Their findings showed a consensus among teachers and students regarding the effectiveness of e-learning, suggesting it enhances instructional delivery and knowledge acquisition.

In contrast, the present study appears to have a broader scope, investigating the influence of e-learning approaches on both teachers' competence and students' academic achievement. While specific findings are not provided, it likely explores various aspects of how e-learning impacts education.

Prihantoro et al., (2019) in their study entitled, “Effect of Teacher Competence on Student Learning” revealed a positive effect of teacher competence on student achievement test results. This outcome highlights that the competence of teachers plays a pivotal role in enhancing the academic performance of students. The study also demonstrated that the learning environment also exerts a positive impact on student achievement test results. This emphasizes the vital role of a conducive and effective learning environment in promoting favorable outcomes for students. The findings underscored a positive effect when both teacher competence and the learning environment coalesce, indicating that their combined presence leads to improved student academic achievements. In essence, these results underscore the collective influence of teacher competence and the learning environment on student success, emphasizing their crucial roles in shaping educational outcomes.

The study conducted by Prihantoro et al., aligns with the present research as they both aim to investigate the elements impacting student academic achievement in education. However, their specific focuses and scrutinized variables differ considerably.

Prihantoro et al., study emphasizes assessing the influence of teacher competence and the learning environment on student achievement. It aims to understand how teacher competence shapes student outcomes and highlights the importance of fostering a conducive learning environment. Their research underscores the positive effects of these factors on student academic achievement.

In contrast, the present study delves into a broader spectrum by examining the influence of e-learning approaches on both teachers' competence and students' academic achievements. It explores various dimensions of how e-learning transforms the educational landscape.

Shekari (2019) in his study entitled, “The Effect of using ICT on the Teaching-Learning process in University Academics” revealed a relatively low utilization of ICT facilities, with only 46 percent of teachers and students employing these resources for educational purposes. This low usage is attributed to the constraints posed by inadequate ICT facilities, which hinder the advancement of teaching and learning. The consequences of this restricted access to ICT facilities are noteworthy. Both teachers and students encounter limitations in their opportunities and capabilities to utilize ICT resources for expanding their knowledge and skills in curriculum instruction. Consequently, the quality of education provided to learners is compromised, leading to suboptimal educational outcomes. The study identifies several significant constraints perceived by teachers that impede the effective use of ICT facilities in the teaching-learning process in tertiary education institutions. These constraints encompass the inadequate supply of computer hardware and software, irregular power supply, limited training opportunities for teachers, a low level of institutional partnership with professional and corporate bodies for technical support, and challenges related to poor funding and maintenance.

The studies conducted by Shekari, hold significant relevance to the present research in the context of their investigation into the integration of technology

within the educational domain. However, they diverge in their focal areas and research outcomes.

Shekari's study scrutinizes the utilization of Information and Communication Technology (ICT) facilities in the teaching and learning processes within higher education colleges. The research underscores a relatively low utilization rate of ICT resources, with a mere 46 percent of teachers and students incorporating them into their educational pursuits. This restricted usage is attributed to constraints emanating from insufficient ICT facilities, which obstruct the progression of teaching and learning. The repercussions encompass constrained opportunities for both educators and students to augment their knowledge and skills through ICT, thereby impacting the quality of education imparted. Conversely, the present study investigates the broader and intricate ramifications of e-learning approaches on the competence of educators and the academic achievements of students. While specific findings from this study are not delineated, it is anticipated to encompass diverse dimensions of how e-learning exerts its influence on the educational landscape.

Malik and Rizvi (2018) conducted a study entitled, “Effect of E-Classroom Learning Environment on Students' Academic Achievement in Mathematics at Secondary Level” revealed several important insights. Specifically, the subscales related to 'Involvement,' 'Personal relevance,' and 'Emphasis on understanding' emerged as significant positive predictors of the classroom learning environment's impact on students' academic achievement. This suggests that when students feel actively engaged in their learning, find personal relevance in

the subject matter, and perceive an emphasis on understanding, it has a positive effect on their academic performance.

Conversely, the subscales 'Investigation' and 'Autonomy' were found to have a negative effect on students' academic achievement. This implies that excessive emphasis on independent investigation and autonomy may not be conducive to improving academic performance in this context. Based on these findings, the researcher recommended that fostering active involvement, particularly among low-achieving students, could have a more positive impact on their learning outcomes.

The study of Malik and Rizvi bore resemblance with the present for both studies are valuable research studies that explore the relationship between e-learning and academic achievement. However, they differ in their specific focus and findings.

The study Malik and Rizvi concentrated on the impact of the classroom learning environment on students' academic achievement in mathematics. The study found that factors such as student involvement, personal relevance, and an emphasis on understanding positively affected academic performance, while an excessive focus on investigation and autonomy had a negative impact.

On the other hand, the present study investigates the influence of the e-learning approach on both teachers' competence and students' academic achievement. While specific findings from this study are not provided, it can be assumed that it looks at a broader range of factors, including the role of teachers and the overall e-learning approach, on academic outcomes.

Mothibi (2018) in her study entitled, “A Meta-Analysis of the Relationship between E-Learning and Students’ Academic Achievement in Higher Education” indicated that Information and Communication Technology (ICT) has a statistically significant positive impact on e-learning-based students' academic achievements. This suggests that when ICT is integrated into e-learning approaches, it results in a positive and statistically significant effect on students' overall academic achievements. In essence, the study underscores the educational benefits of incorporating ICT in higher education, particularly in the context of e-learning, and highlights its potential to enhance students' academic performance.

The study of Mothibi had resemblance with the present study for both share a common theme of investigating the relationship between e-learning or technology and students' academic achievement. However, they differ in terms of their specific foci and research approaches. Mothibi's study conducts a meta-analysis to estimate the relationship between e-learning and students' academic achievement in higher education. The research finds a statistically significant positive impact of Information and Communication Technology (ICT) on students' academic achievements in e-learning. This meta-analysis provides valuable insights by summarizing the findings of multiple studies conducted between 2015 and 2018.

On the other hand, the present study, examines the influence of e-learning approaches on both teachers' competence and students' academic achievements. Specific findings from this study are not provided, but it is likely to

investigate various aspects of how e-learning impacts both educators and students in the academic setting.

A study conducted by Mahdinejad and Amoii (2017) in their study entitled, “Assessment of Computer Self-efficacy and Attitudes toward Computers in University Students” suggested that the inadequate ICT facilities in the majority of colleges could contribute to low academic achievements among students. In light of these findings, the researchers emphasized the need for a more thorough analysis of the adequacy, utilization, and maintenance of ICT facilities in higher education institutions. Such analysis would be instrumental in advising stakeholders in the higher education sector to improve the provision, capacity utilization, and sustainability of ICT facilities in colleges. Essentially, the study underscores the importance of addressing the challenges related to ICT resources in higher education to enhance the quality of teaching and learning processes and, in turn, improve students' academic achievements.

The study by Mahdinejad and Amoii shares some similarities with the present research, as they both delve into issues related to technology and its impact on the academic environment. However, there are notable differences in their primary focus and findings.

Mahdinejad and Amoii's study primarily revolves around assessing computer self-efficacy and attitudes toward computers in university students. Their key finding underscores a significant deficiency in well-equipped computer laboratories within colleges, with more than half of the surveyed institutions lacking these essential ICT facilities. This inadequacy has implications for the colleges' ability to effectively deliver their curriculum, potentially resulting in lower

academic achievements among students. Consequently, their study highlights the imperative need to enhance the provision, utilization, and sustainability of ICT facilities in higher education institutions.

In contrast, the present study takes a broader approach by exploring the overarching influence of e-learning approaches on both teachers' competence and students' academic achievements. This research delves into various facets of how e-learning impacts education, providing a comprehensive examination of its effects on both educators and students in the academic environment.

Naz (2016) in his study entitled, “Effects of Teachers’ Professional Competence on Students’ Academic Achievements at Secondary School level in Muzzafarabad District” identified the professional competencies of teachers in public secondary schools within the Muzaffarabad district. This provided insights into the skill set and qualifications of teachers in the region. The research also investigated the relationship between teachers' professional competence and students' academic achievements in secondary schools. It likely found correlations or patterns indicating that the competence of teachers has an impact on the academic success of their students. It also compared the academic achievements of female and male students at secondary schools. This analysis revealed whether there were significant differences in the academic performance of students based on gender and suggested measures for the enhancement of professional competence in teachers. The findings likely provided recommendations or strategies to improve the competence of teachers, which, in turn, could positively impact student academic achievements.

The study conducted by Naz shares a common objective with the present study as both strive to uncover the factors that influence students' academic achievements. Nevertheless, they diverge in their primary focus and the specific aspects they investigate.

Naz's research primarily revolves around the assessment of teachers' professional competence in public secondary schools located within the Muzzafarabad district. This study delves into multiple dimensions, exploring the relationship between teacher competence and students' academic achievements. It also conducts a comparison of the academic accomplishments of female and male students, identifies any discrepancies in teacher competence that impact student achievements, and provides recommendations for enhancing teachers' professional competence.

In contrast, the present study adopts a more comprehensive approach, examining the impact of e-learning approaches on both teachers' competence and students' academic achievements. This study thoroughly explores various facets of how e-learning influences the education landscape.

The studies cited here direct on the perception of teachers and students on e-learning and teacher competence and how these variables interplay to find out their relationship to the academic achievement of learners.

Chapter 3

METHODOLOGY

This part presents the working process to be undertaken in this study. It includes the following: research design, the locale of the study, the instrumentation, the validation of the instruments, the sampling procedure, and the statistical treatment of data.

Research Design

This study adopted a quantitative research approach, employing the descriptive-correlation design with questionnaires as the primary data collection tool. The descriptive aspect of the research encompassed the profiling of teachers and Grade 6 learners. For teachers, this profiling includes their age, gender, civil status, gross monthly family income, highest educational attainment, number of years in teaching, number of training sessions attended, latest performance rating based on IPCRF, and attitude toward e-learning. As for Grade 6 student-respondents, their profiles were described in terms of age, gender, parents' highest educational attainment, parents' occupation, gross monthly family income, types of technology used in learning, and attitude toward the e-learning approach.

The study correlated these respondent profiles with their perceptions of the e-learning approach, examining aspects such as the challenges and benefits of e-learning, attitudes toward using computer systems, and leisure interest in e-learning innovations and computer use. Furthermore, it will explore the

correlation between teachers' personal profiles and their teaching competence, encompassing planning, development, and outcomes. Additionally, the academic achievement of the Grade 6 students will be determined and correlated with their personal profiles and perceptions of the e-learning approach.

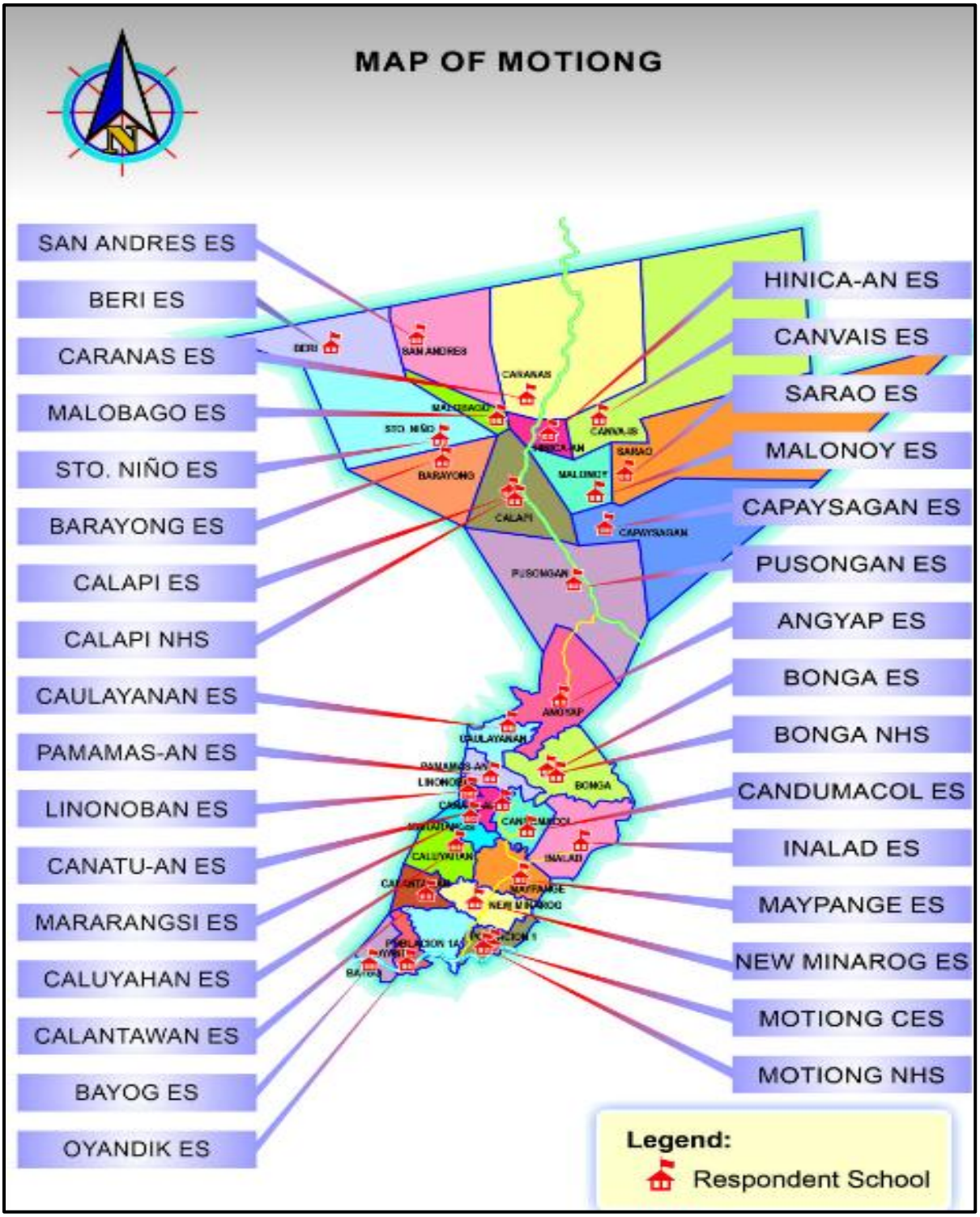
To analyze the data gathered, a range of statistical tools were applied. These tools will include Frequency Count, Percentage, Median, Weighted Mean, Mean Absolute Deviation (MAD), Mode Mann-Whitney U-test for Independent Samples, Spearman's Rank Coefficient of Correlation, Chi-Square Test, Cramer's V-Test, and Fisher's t-Test to assess and test the hypotheses.

Locale of the Study

The study was conducted in the Motiong District, which is part of the Samar Division in the Philippines. Figure 2 provides a vicinity map of Motiong, Samar, depicting the location of this fourth-class municipality within the province of Samar. The Motiong District encompasses a total of twenty-nine elementary schools, including Angyap Elementary School, Barayong Elementary School, Bayog Elementary School, Beri Elementary School, Bonga Elementary School, Calantawan Elementary School, Calapi Elementary School, Caluyahan Elementary School, Canatuan Elementary School, Candomacol Elementary School, Canvais Elementary School, Capaysagan Elementary School, Caranas Elementary School, Caulayanan Elementary School, Hinica-an Elementary School, Inalad Elementary School, Linonoban Elementary School, Malobago Elementary School, Malonoy Elementary School, Mararangsi Elementary School, Maypange Elementary School, Motiong Central Elementary School, New Minarog Elementary School, Oyandic Elementary School, Pamamas-an

Figure 2

The Map Showing the Locale of the Study



Elementary School, San Andres Elementary School, Santo Niño Elementary School, Sarao Elementary School, and Pusongan Elementary School.

Additionally, there are three secondary schools: Bonga National High School, Calapi National National High School, and Motiong National High School. The district is overseen by a District Supervisor, and each secondary school is led by a principal.

Motiong is a 4th class municipality located in the province of Samar, Philippines. It is further divided into 30 barangays, including Poblacion I, Poblacion I-A, Angyap, Barayong, Bayog, Beri, Bonga, Calantawan, Calapi, Caluyahan, Canatuan, Candomacol, Canvais, Capaysagan, Caranas, Caulayanan, Hinica-an, Inalad, Linonoban, Malobago, Malonoy, Mararangsi, Maypange, New Minarog, Oyandic, Pamamasan, San Andres, Santo Niño, Sarao, and Pusongan.

In the Pre-American era, local residents inhabited Motiong, which was unnamed at that time. Some people engaged in oyster diving for their sustenance, while others engaged in bartering goods such as rice, corn, cassava, taro, yam tubers, seafood, and abaca fibers with neighboring barrios and municipalities. Only a few local caravans traveled in groups to improve defense against bandits and enhance economies of scale in trade, as only a few people had the means to buy commodities.

The naming of the place "Mutya" or "Land of Treasure" originated from the discovery of a lustrous pearl inside an oyster. A man who found the pearl named it "Mutya," signifying the area's abundance of treasure. Prominent individuals like Mariano Sapetin, Valentin Conge, Simon Tingzon Sr., Claudio Tingzon, and

Antonio Abalos played pivotal roles in making Motiong an independent town. Their efforts led to the approval of House Bill No. 1844 by Congressman Tito V. Tizon, which became Republic Act No. 290 on June 16, 1948. This act separated the barrios of Motiong, Bayog, Oyandic, Calantawan, Sinampigan, Calape, Bonga, Hinicaan, Caluyahan, Malolobog, and Maypangi from the town of Wright, forming the independent town of Motiong. Mariano Sapetin and Antonio Uy were appointed as the first mayor and vice mayor, respectively.

Instrumentation

The researcher utilized several data gathering instruments to collect essential information needed in this study, namely: questionnaire, and documentary analysis.

Questionnaire. The questionnaire was the principal instrument for data collection, consisting of two sets adapted from previous studies by Kisanga and Ireson (2016) and Moreno-Murcia, Torregrosa, and Pedreño, N. (2015). Set 1 was administered to the teacher-respondents, while Set 2 was given to the Grade 6 students in the District of Motiong.

For the teacher-respondents, Set 1 of the questionnaire was comprised of four parts. The first part collected demographic information, including age, sex, civil status, gross monthly family income, highest educational attainment, number of years in teaching, number of relevant in-service trainings attended, latest performance rating based on IPCRF, and attitude toward e-learning. In this section, teacher-respondents provided the required information on the blank lines or use check marks in the appropriate spaces.

Part II focused on the teacher-respondents' perceptions of the e-learning approach, covering parameters such as challenges of e-learning (12 statements), benefits from e-learning (9 statements), attitude towards using computer systems (6 statements), and leisure interest in e-learning innovations and computer use (9 statements). Teacher-respondents will indicate their agreement with each statement using a five-point Likert scale 5 for Strongly Agree, 4 for Slightly Agree, 3 for Agree, 2 for Slightly Disagree, and 1 for Strongly Disagree by putting a checkmark on the box that corresponds to their answer.

Part III assessed the teaching competence of the teacher-respondents, divided into categories like planning (4 statements), development (17 statements), and results (6 statements). Teachers will use a five-point Likert scale 5 for Very High, 4 for High, 3 for Medium, 2 for Low, and 1 for Very Low to describe their competence in these areas by putting a checkmark on the box that corresponds to their answer.

Part IV gathered data on the academic achievement of Grade 6 students based on their general average obtained during the School Year 2021-2022. Teacher-respondents retrieved this information from their learners' report cards and record it in the space provided.

Set 2, administered to student-respondents, encompassed two parts, similar to Set 1 but adjusted for the student profile.

School Form 9. The academic achievement of Grade 6 learners for the School year 2021-2022 was assessed using the School Form 9 (SF 9), also known as the Learners' Progress Report Card. Student respondents were

instructed to record their general average, as indicated on their individual SF 9 reports.

Validation of Instrument

The foundation of the questionnaire employed in this study can be traced back to the research conducted by Kisanga and Ireson (2016) and Moreno-Murcia, Torregrosa et al. (2015). Although skillfully tailored to align with the present research, the questionnaire was set to undergo a comprehensive validation process overseen by the esteemed Panel of Oral Examiners from the College of Graduate Studies at Samar College. This meticulous validation endeavor encompassed a thorough examination of face validity, content validity, and construct validity, ensuring the seamless adaptation of the questionnaire to the unique local context of the current study.

Additionally, the personal profiles of the respondents underwent an equally meticulous validation process, steered by the distinguished Panel of Oral Examiners at Samar College's College of Graduate Studies. This validation procedure aimed to discern the suitability and relevance of each profile item. Through this judicious evaluation, items that necessitate refinement, removal, or inclusion were discerningly identified, culminating in a comprehensive profile that resonates profoundly with the study's local context and objectives.

Sampling Procedure

Table 1 shows the distribution of respondents per school and by category. The researcher utilized the 29 elementary schools comprising the District of

Motiong, considering that these schools also observe e-learning approach in the conduct of classes. These schools include Angyap ES, Barayong ES, Bayog ES,

Table 1

The Number of Respondents per School per Category

Schools	No. of Respondents		
	Grade 6 Students		Teachers
	N	**n**	**N**
1. Angyap ES	2	1	1
2. Barayong ES	2	1	1
3. Bayog ES	18	10	1
4. Beri ES	2	1	1
5. Bonga ES	23	13	1
6. Calantawan ES	7	4	1
7. Calapi ES	34	19	1
8. Caluyahan ES	12	7	1
9. Canatuan ES	8	4	1
10. Candumacol ES	14	8	1
11. Canva-is ES	3	2	1
12. Capaysagan ES	5	3	1
13. Caranas IS	24	13	1
14. Caulayanan ES	6	3	1
15. Hinica-an ES	4	2	1
16. Inalad ES	21	12	1
17. Linonoban ES	2	1	1
18. Malobago ES	2	1	1
19. Malonoy ES	3	2	1
20. Mararangsi ES	3	2	1
21. Maypange ES	3	2	1
22. Motiong CES	67	38	1
23. New Minarog ES	13	7	1
24. Oyandic ES	14	8	1
25. Pamamas-an ES	2	1	1
26. Pusongan ES	2	1	1
27. San Andres ES	4	2	1
28. Sarao ES	2	1	1
29. Sto. Niño ES	2	1	1
Total Population	**302**	**172**	**29**
Response Rate		**100%**	

Beri ES, Bonga ES, Calantawan ES, Calapi ES, Caluyahan ES, Canatuan ES, Candumacol ES, Canva-is ES, Capayasagan ES, Caranas ES, Caulayanan ES, Hinica-an ES, Inalad ES, Linonoban ES, Malobago ES, Malonoy ES, Mararangsi ES, Maypange ES, Motiong CES, New Monarog ES, Oyandic ES, Pamamas-an ES, Pusongan ES, San Andres ES, Sarao ES, and Sto. Nino ES.

The study encompassed all Grade 6 teachers, regardless of their specific roles, and their students, ensuring an all-inclusive approach through the utilization of total enumeration to select teacher participants.

On the other hand, random sampling procedure with replacement using the fish bowl technique was used in choosing the student-respondents. The Sloven's formula (Sevilla et al.,1992) was used in determining the sample size. After determining the sample size, it was converted into sample proportion and respondents per school will be ascertained.

Data Gathering Procedure

The primary data collection method for this study involves a meticulously designed survey questionnaire aimed at assessing implementation of e-learning approach and learners' academic achievement within the District of Motiong, Schools Division of Samar, specifically among Grade 6 learners and teachers. The

researcher personally administered this survey in various elementary schools throughout the district, and it's important to note that this study involves minors. To ensure the ethical and responsible collection of data from minors, the following steps were taken:

Prior to data collection, formal letters were sent to the Schools Division of Samar, the District Supervisor of Motiong, and the School Principals of the identified elementary schools. These letters requested permission to conduct the study in public elementary schools within the district. In the case of Grade 6 learners, special attention was given to obtaining informed consent from parents or legal guardians. Ethical considerations were strictly followed, ensuring that participation is voluntary and that the research adheres to all applicable regulations and guidelines for research involving minors.

Once the required approvals were obtained, collaboration with school authorities and teachers began to plan the survey's schedule and timeline. This included discussions on the most suitable times to administer the survey, considering the learners' daily routines and ensuring minimal disruption to their education.

The researcher worked closely with school authorities to acquire a list of Grade 6 learners. This facilitated the identification of respondents through the established sampling strategy, ensuring that the participants represent a diverse and unbiased sample of the target population.

The survey questionnaire was administered according to the designated schedule. The researcher was present during the survey administration to provide clarifications, assist learners in navigating the questionnaire, particularly regarding the checklist scale, and promptly address any unanswered items. All interactions with the learners were conducted in a friendly and reassuring manner to create a comfortable environment.

After collecting the questionnaires, an initial review was conducted to ensure that all responses comply with instructions and are complete. Any discrepancies or missing data were addressed promptly.

Subsequently, the researcher analyzed the responses, providing interpretations based on scoring guides and interpretation rubrics. The collected data were tabulated according to the recommendations of a research statistician, facilitating computation, analysis, and interpretation for a thorough understanding of the dataset.

Statistical Treatment of Data

The data were tallied, organized, analyzed, and interpreted using the appropriate statistical tools both descriptive and inferential such as Frequency Count, Percentage, Median, Weighted Mean, Mean Absolute Deviation (MAD), Mode Mann-Whitney U-test for Independent Samples, Spearman's Rank Coefficient of Correlation, Chi-Square Test, Cramer's V-Test, and Fisher's t-Test

. **Frequency Count**. This statistic was used in reporting the profile of the teacher-respondents in terms of their age and sex, civil status, gross monthly family income, highest educational attainment, number of years in teaching, number of trainings attended, latest performance rating based on IPCRF, attitude toward e-learning. This was also used in reporting the personal profile of the student-respondents in terms of age and sex, parents' highest educational attainment, parents' occupation, gross monthly family income, types of technology used in learning, and attitude toward the e-learning approach.

Percentage. This statistical tool was used in presenting the proportion of the teacher and student-respondents having the same profile variates. The formula which was used (Sevilla et al. 1992:200):

$$P = [f/N] \times 100$$

where P refers to the percentage;

f refers to the number of occurrence; and

N refers to the total number of samples.

Median. This tool was used to describe if there is an even number of observations then there is no single middle value.

$$\text{Med } (X) = \begin{cases} X\left[\frac{n+1}{2}\right] & \text{if n is odd} \\ \frac{X\left[\frac{n}{2}\right]+X\left[\frac{n}{2}+1\right]}{2} & \text{if n is even} \end{cases}$$

where: X = ordered list of values in data set;

n = number of values in data set

Mean Absolute Deviation. This tool was used to describe the extent to which not normally distributed data varied. The following formula (Ferguson & Tekane, 1989) was used:

$$MAD = \frac{\Sigma|X_1 - \mu|}{n}$$

where: MAD refers to the mean average deviation;

$\Sigma|X_1 - \mu|$ refers to the absolute difference between the observation and the mean; and

n refers to the number of observations

Weighted Mean. This was used to express the collective percentage of each group of respondents.

$$\mu = \frac{\sum f_i X_i W_i}{n}$$

where: μ refers to the weighted mean;

f_i refers to the frequency of a category of variable;

X_i refers to the identified category of variable;

W_i refers to the weights which are expressed in a five-point Likert or

Thurstone Scales; and

n refers to the sample size.

Range	**Interpretation**	
4.50-5.00	Strongly Agree	(SA)
	Extremely Implemented	(EI)
3.50-4.49	Agree	(A)
	Highly Implemented	(HI)
2.50-3.49	Neutral	(N)
	Moderately Implemented	(MI)
1.50-2.49	Disagree	(D)
	Slightly Implemented	(SI)
1.00-1.49	Strongly Disagree	(SD)
	Not Implemented	(NI)

Mann-Whitney U-test for Independent Samples. This tool will be used to compare two independent groups of variables that are not normal in distribution (Walpole, 1989). The formula is as follows:

U = the smaller value between u_1 and u_2

where:

$$u_1 = w_1 - \frac{n_1(n_1+1)}{2}$$

$$u_2 = w_2 - \frac{n_2(n_2+1)}{2}$$

$$W_2 = \frac{(n_1+n_2)(n_1+n_2=1)}{2} - W_1$$

Chi-Square (x^2) Test. This was used to determine the relationship between nominal dependent variables using the following formula (Walpole,1989:390):

$$X^2 = \sum \frac{(O_i - E_i)}{E_i}$$

where: O refers to the observed frequency; and

E refers to the expected frequency.

Cramer's V Coefficient. This tool was used to determine the effect size measurement for the Chi-Square test of Independence that measured how strongly two categorical fields were associated (Mac Tutor, 2022). The formula used will be as follows:

$$V = \sqrt{\frac{x^2}{n\,(K-1)}}$$

where: v refers to the Cramer's V coefficient;

n refers to the number of observations involved; and

(K-1) refers to the degree of freedom

Spearman's rank Coefficient Correlation. The Spearman's Rho was employed to associate linear relationship between two variables that are in a not normal distribution using the following formula (Walpole, 1997:460):

$$p = 1 - \frac{6\sum D^2}{N^3 - N}$$

where: p refers to the coefficient of linear association between paired ranks assigned to individual scores on two variables;

D refers to the deviation between paired ranks; and

N refers to the total number of paired observations

Fisher's t-Test. This was used to test the significance of relationship between paired variables. The Fisher's t-test (Walpole, 1982:382) formula which will be used:

$$t = {}^{r}\sqrt{\frac{n-2}{1-r^2}}$$

Where:

r= refers to the computed correlation coefficient

N= refers to the number of paired observation

t= refers to the computed Fisher's t-value/ significance of the correlation coefficient.

The computed value will be compared with the critical value adopting the following decision rule: accept the null hypothesis if and when the computed value turned lesser than the critical value; and reject the null hypothesis if and when it turned otherwise.

The hypotheses were tested at 0.05 level of significance to determine the critical region of acceptance and rejection. For precision and accuracy in the computation, the researcher utilized the available software and statistical packages in the data processing

Table 2

The Table of Coefficient of Correlation

Correlation Coefficient	Interpretation
0	No linear association
0<p<± 0.2	Very weak linear association
±0.2≤p<±0.4	Weak linear association
±0.4≤p<±0.6	Moderate linear association
±0.6≤p<±0.8	Strong linear association
±0.8≤p<±0.1.0	Very Strong linear association
+1.0	Perfect linear association

Chapter 4

PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

This chapter presents the findings of the study with the corresponding analysis and interpretation. Included in this chapter are the following: profile of the teacher-respondents, profile of the student-respondents, level of implementation with regard to the e-learning approach based on the perception of the two groups of respondents, comparison between the level of implementation of e-learning approach of the two groups of respondents, relationship between the level of implementation of the two groups of respondents along their personal variates, level of teaching competence of the teacher-respondents, relationship between the teaching competence of respondents and the identified variables, level of academic performance of Grade 6 students based on their final rating during the School Year 2022-2023, and relationship between the academic performance of the Grade 6 students and the identified factors.

Profile of the Teacher-Respondents

This part presents the profile of the teacher-respondents in terms of age and sex, civil status, highest educational attainment, teaching position, gross monthly family income, number of years in teaching, performance rating based on the latest IPCRF, types of technology literacy tools used in teaching, relevant multi-grade trainings, and attitude toward e-learning approach.

Age and Sex. The table shows the age and sex distribution of teacher-respondents.

Table 3

Age and Sex Distribution of Teacher-Respondents

Age Bracket	Sex		Total	%
	Male	Female		
47-51	1	0	1	3.45
42-46	1	1	2	6.90
37-41	2	1	3	10.34
32-36	2	5	7	24.14
27-31	4	11	15	51.72
Not Stated	0	1	1	3.45
Total	**10**	**19**	**29**	**100.00**
%	**34.48**	**65.52**	**100.00**	
Median	**31 years old**			
MAD	**2 years**			

w-p=<.001<.05: not normally distributed

It can be gleaned from the table that more than half, that is, 15 or 51.72

percent of the teacher-respondents were aged 27-31 years old while seven or 24.14 percent were aged 32-36 years old, and the rest were distributed to the other identified age brackets.

The median age of the teacher-respondents was posted at 31 years old with a mean absolute deviation of 2 years. This signified that the teacher-respondents were in their early 30s at the prime of their age and discharged their functions and responsibilities exemplarily.

Moreover, the majority of the teacher-respondents belonged to the female sex accounting for 19 or 65.52 percent. The male counterpart was composed of 10 or 34.48 percent. This suggested that most of this sex group embraced teaching as their profession and took up Teacher Education during their college.

Civil Status. Table 4 presents the civil status distribution of the teacher-respondents.

Table 4

Civil Status of Teacher-Respondents

Civil Status	F	%
Single	11	37.93
Married	17	58.62
Widowed	1	3.45
Total	**29**	**100.00**

From the table, it can be noted that the majority of the teacher-respondents were married accounting for 17 or 58.62 percent while 11 or 37.93 percent were single.

The foregoing data suggested that the teacher-respondents had entered into a marital state with their respective families being supported by the pursuit of their profession.

Highest Educational Attainment. Table 5 contains the distribution of the teacher-respondents in terms of their highest educational attainment.

The table shows that the number of the teacher-respondents, that is, nine or 31.03 percent were with master's units while eight or 27.59 percent were baccalaureate degree holders, six or 20.69 percent were master's degree holders, and the rest were distributed to the other identified educational level.

Table 5

Highest Educational Attainment of Teacher-Respondents

Educational Level	f	%
Master's Degree	6	20.69
Master's Unit	9	31.03
Baccalaureate Degree	8	27.59
Not Stated	6	20.69
Total	**29**	**100.00**

The data signified that the teacher-respondents qualified themselves for the teaching position. In fact, most of them pursued advanced education to be more competent for the position.

Teaching Position. Table 6 presents the teaching position of the teacher-respondents.

Table 6

Teaching Position of Teacher-Respondents

Position	f	%
Master Teacher I	3	10.34
Teacher III	10	34.48
Teacher II	2	6.90
Teacher I	13	44.83
Not Stated	1	3.45
Total	**29**	**100.00**

The table shows that the number of teacher-respondents, that is 13 or 44.83 percent were appointed as Teacher I while 10 or 34.48 percent were

appointed as Teacher III, and the rest were distributed to the other identified teaching positions.

The data signified that personnel movement had taken place during the incumbency of the teacher-respondents based on the hierarchical structure of the DepEd.

Gross Monthly Family Income. Table 7 reveals the gross monthly family income of the teacher-respondents. The table shows that more than half of the teacher-respondents, that is 15 or 51.72 percent registered a gross monthly family

Table 7

Gross Monthly Family Income of Teacher-Respondents

Income Bracket	F	%
39,250-43,999	3	10.35
34,500-39,249	0	0.00
29,750-34,499	9	31.03
25,000-29,749	15	51.72
Not Stated	2	6.90
Total	**29**	**100.00**

income of 25,000-29,749, Nine ir 31,03 percent disclosed an income of 29,750-34,499 monthly in gross and the rest were distributed to the other identified income brackets.

The data suggested that the teacher-respondents have an income sufficient to support their respective families with the basic and educational needs of the schooling members.

Number of Years in Teaching. Table 8 contains the data on the number of years in teaching of the teacher-respondents.

The table shows that the number of the teacher-respondents, that is, 13 or 44.83 percent had been teaching for 6-10 years while 12 or 41.38 percent for 11-15 percent, and the rest were distributed to the other identified years of service brackets. The data signified that the teacher-respondents had been with the DepEd for quite a number of years enough to hone their expertise.

Table 8

Number of Years in Teaching of Teacher-Respondents

Years of Service	F	%
11-15	12	41.38
6-10	13	44.83
1-5	3	10.34
Not Stated	1	3.45
Total	**29**	**100.00**

Performance Rating Based on the Latest IPCRF. Table 9 presents the performance rating of the teacher-respondents based on the latest IPCRF.

Table 9

Performance Based on the Latest IPCRF of Teacher-Respondents

Rating	F	%
5	14	48.27
4	7	24.14
3	1	3.45
Not Stated	7	24.14
Total	**29**	**100.00**

From the table, it can be gleaned that the number of the teacher-respondents, that is 14 or 48.27 percent obtained a rating of 5 while seven or 24.14 percent got a rating of 4 and the rest were distributed to the other identified ratings.

The foregoing data showed that the teachers exemplarily discharged their duties and responsibilities as classroom teachers.

Types of Technology Literacy Tools Used in Teaching. Table 10 presents the types of technology literacy tools used in teaching by the teacher-respondents.

The table shows that the teacher-respondents primarily used the following technology tools in teaching, namely: computers, internet, multi-link headphones, and audio recording software, and secondarily, digital cameras, webcams, and

Table 10

Types of Technology Literacy Tools Used in Teaching by Teacher-Respondents

Tool	f	%
Computers	4	13.79
Developmentally Appropriate Programs	1	3.46
Internet	4	13.79
Word Processors	2	6.90
Multi-Link Headphones	4	13.79
Digital Cameras	3	10.34
Webcams	3	10.34
Audio Recording Software	4	13.79
Walkie-talkies, Telephones that encourage the development of speaking and listening skills	3	10.34
Interactive Whiteboards and Smartboards	1	3.46
Total	**29**	**100.00**

walkie-talkies, telephones that encourage the development of speaking and listening skills.

The data showed that the teacher-respondents were technology-literate utilizing some of them in teaching.

Relevant In-Service Training. Table 11 provides the regularity of attendance of the teacher-respondents to relevant in-service training in the different levels – national, regional, division, district, and school. The preceding data showed that the teacher-respondents never attended national and regional

Table 11

Relevant In-Service Training of Teacher-Respondents

Level	Weighted Mean	Interpretation
National	1.04	Never
Regional	1.18	Never
Division	1.82	Sometimes
District	3.14	Oftentimes
School	3.79	Always

Legend:

3.50-4.00	Always
2.50-3.49	Oftentimes
1.50-2.49	Sometimes
1.00-1.49	Never

level training while they sometimes attended division level training, oftentimes attended district level training, and always attended school level training.

The data signified that the teacher-respondents attended relevant in-service training which was accessible to them as part of their professional development.

Attitude Toward e-Learning Approach. Table 12 presents the attitude of the teachers respondents toward e-learning approach. There were 10 attitude

statements appraised in this area.

Table 12

Attitude Toward e-Learning Approach of Teacher-Respondents

Attitude Statement	WM	I
1. I think distance education is not a viable alternative to learning compared to face-to-face environments	4.21	A
2. I believe students learn less in distance education courses	4.54	SA
3. I feel that grades will be lower for students in a distance education class	4.32	A
4. I believe there is less student-teacher interaction in distance education environments	4.18	A
5. I feel there is a high degree of depersonalization and anomie among students and teachers in distance education	4.07	A
6. I believe there is more academic dishonesty (cheating, plagiarism) in online courses	4.39	A
7. I think student discussions in distance education courses will seem impersonal and lack feeling compared to face-to-face classes.	4.21	A
8. I believe educational goals can be easily achieved through e-learning	3.46	U
9. I believe E-learning provides an opportunity for positive interaction between students with one another.	3.39	U
10. I feel that E-learning improves the student's self-learning skills	3.39	U
Grand Weighted Mean	**4.02**	
Interpretation	**Agree**	

Legend:			
	4.50-5.00	Strongly Agree	(SA)
	3.50-4.49	Agree	(A)
	2.50-3.49	Uncertain	(U)
	1.50-2.49	Disagree	(D)
	1.00-1.49	Strongly Disagree	(SD)
		Weighted Mean	(WM)
		Interpretation	(I)

The table presents that the teacher-respondents strongly agree along one attitude statement while they agree with six attitude statements, and were uncertain along three attitude statements with weighted means ranging from 3.39

to 4.54. From these attitude statements, “I believe students learn less in distance education courses” obtained the highest weighted mean.

Taken as a whole, the teacher-respondents agree on their attitude toward e-learning approach which is shown by the grand weighted mean of 4.02. This signified that the teacher-respondents manifested highly favorable attitude toward the use of e-learning approach in teaching.

Profile of Student-Respondents

This part provides information regarding the profile of student-respondents in terms of age and sex, parents’ highest educational attainment, parents’ occupation, gross monthly family income, types of technology used in learning, and attitude toward e-learning approach.

Age and Sex. Table 13 presents the age and sex distribution of student-respondents.

The table shows that a number of the student-respondents, that is, 72 or 41.86 percent were aged 12 years old while 11 or 17.44 percent were aged 11 years old, 29 or 16.86 percent were aged 13 years old, and the rest were distributed to the other identified age brackets.

The median age of the student-respondents was posted at 12 years old which signified that they were in their right age for the grade level they were enrolled.

Moreover, majority of the student-respondents belonged to the female sex accounting for 93 or 54.07 percent. The male counterpart was composed of 75 or 43.60 percent only.

Table 13

Age and Sex Distribution of Student-Respondents

Age	Sex			Total	%
	Male	Female	Not Stated		
14	15	4	0	19	11.05
13	13	16	0	29	16.86
12	25	47	0	72	41.86
11	10	20	0	30	17.44
10	6	3	0	9	5.23
Not Stated	6	3	4	13	7.56
Total	**75**	**93**	**4**	**172**	**100.00**
%	**43.60**	**54.07**	**2.33**	**100.00**	
Median	**12 years old**				
MAD	**1 year**				

w-p=<.001<.05: not normally distributed

The data shows that female dominance existed among the student-respondents. This does not mean that the females were interested in schooling however, more of this sex group were around during data gathering.

Parents' Highest Educational Attainment. Table 14 presents the parents' highest educational attainment of the student-respondents.

From the table, it can be noted that the number of parents of the student-respondents, that is, 34 or 19.77 percent were elementary graduates while 33 or 19.19 percent were high school graduates, 25 or 14.53 percent were college undergraduates, and the rest were distributed to the other identified educational levels. However, 48 or 27.91 percent kept silent regarding this information.

The data signified that the parents of the student-respondents were functional literates, that is, they have the capability to read, write, and understand

simple messages.

Table 14

Parents' Highest Educational Attainment of Student-Respondents

Educational Level	f	%
Master's Degree	4	2.32
College Graduate	5	2.91
College Undergraduate	25	14.53
High School Graduate	33	19.19
High School Undergraduate	5	2.91
Elementary Graduate	34	19.77
Elementary Undergraduate	18	10.46
Not Stated	48	27.91
Total	**172**	**100.00**

Gross Monthly Family Income. Table 15 reveals the gross monthly family income of the student-respondents.

Table 15

Gross Monthly Family Income of Student-Respondents

Income Bracket	F	%
40,000-47,799	2	1.16
32,200-39,999	0	0.00
24,400-32,199	2	1.16
16,600-24,399	0	0.00
8,800-16,599	0	0.00
1,000-8,799	48	27.91
Not Stated	104	69.77
Total	**172**	**100.00**

It can be gleaned from the table that 48 or 27.91 percent of the families of the student-respondents registered an income of 1,000-8,799 while the two or 1.16 percent earned 40,000-47,799 and majority of them did not disclose this information accounting for 104 or 69.77 percent.

The data suggested that the families of the student-respondents had an income to support the family members.

Types of Technology Used in Learning. Table 16 presents the types of technology used in learning.

Table 16

Types of Technology Used in Learning by Student-Respondents

Tool	F	%
Digital Readers and Tablet	9	5.23
Computer	59	34.30
Internet	24	13.96
Word Processors	64	37.21
Webcam	16	9.30
Total	**172**	**100.00**

The table shows that the student-respondents utilized word processors (64 or 37.21%) and computers (59 or 34.30%) in learning which signified that they recognized the importance of these technologies and they used them in learning.

Attitude Toward e-Learning Approach. Table 17 contains the perception of the student-respondents on their attitude toward e-learning approach. There were 10 attitude statements appraised by them.

From the table, it can be noted that the student-respondents agree with the four attitude statements and they were uncertain with the remaining 6 attitude statements with weighted means ranging from 2.69 to 3.73. The attitude statements stating, “I think distance education is not a viable alternative to learning

compared to face-to-face environments" and "I believe there is more academic dishonesty (cheating, plagiarism) in online courses" obtained the highest and the least weighted means, respectively.

Table 17

Attitude Toward e-Learning Approach of Student-Respondents

Attitude Statement	WM	I
1. I think distance education is not a viable alternative to learning compared to face-to-face environments.	3.73	A
2. I believe students learn less in distance education courses.	3.59	A
3. I feel that grades will be lower for students in a distance education class.	3.59	A
4. I believe there is less student-teacher interaction in distance education environments	3.37	U
5. I feel there is a high degree of depersonalization and anomie among students and teachers in distance education	3.14	U
6. I believe there is more academic dishonesty (cheating, plagiarism) in online courses.	2.69	U
7. I think student discussions in distance education courses will seem impersonal and lack feeling compared to face-to-face classes.	3.27	U
8. I believe educational goals can be easily achieved through e-learning	2.83	U
9. I believe E-learning provides an opportunity for positive interaction between students with one another.	3.47	U
10. I feel that E-learning improves the student's self-learning skills.	3.69	A
Grand Weighted Mean	**3.34**	
Interpretation	**Uncertain**	

Legend:			
	4.50-5.00	Strongly Agree	(SA)
	3.50-4.49	Agree	(A)
	2.50-3.49	Uncertain	(U)
	1.50-2.49	Disagree	(D)
	1.00-1.49	Strongly Disagree	(SD)
		Weighted Mean	(WM)
		Interpretation	(I)

Taken as a whole, the student-respondents were uncertain with their attitude toward e-learning approach being shown by the grand weighted mean of 3.34. This signified that they manifested a moderately favorable attitude toward it.

Level of Implementation with Regard to the e-Learning Approach Based on the Perception of the Two Groups of Respondents

This part presents the perception of the two groups of respondents – teachers and students, relative to the level of implementation with regard to the e-learning approach along challenges of e-learning, benefits of e-learning, attitude to using computer systems, and leisure interest in e-learning innovations and use of computers.

Challenges of e-Learning. Table 18 presents the perceptions of the two groups of respondents relative to the level of implementation with regard to the e-learning approach along challenges of e-learning. There were 12 indicators evaluated in this area.

The table shows that the teachers considered seven indicators as highly implemented while the five indicators were considered by the same respondents as moderately implemented with weighted means ranging from 3.07 to 3.89. The indicators with the statements stating, “using computer systems” and “teachers’ employment” equally obtained the highest weighted mean.

Taken as a whole, the teachers considered the level of implementation with regard to the e-learning approach along with challenges of e-learning as highly implemented being shown by the grand weighted mean of 3.60. The same table shows that the students considered all indicators along with challenges of

e-learning as moderately implemented with weighted means ranging from 2.21 to 3.38. The indicator with the statement, “teachers’ employment” obtained the highest weighted mean.

Table 18

Level of Implementation with Regard to the e-Learning Approach Based on the Perception of the Two Groups of Respondents along Challenges of e-Learning

Indicator	Teachers		Students	
	WM	I	WM	I
1. Supporting learners in an e-learning Environment	3.82	HI	2.86	MI
2. Expensive technical support for e-learning	3.07	MI	2.54	MI
3. Discussions on e-learning technologies	3.57	HI	3.27	MI
4. Using computer systems	3.89	HI	2.21	MI
5. e-learning infrastructure	3.14	MI	3.29	MI
6. Social isolation	3.36	MI	3.04	MI
7. Difficult to use	3.48	MI	2.86	MI
8. Interacting with the computer system	4.04	HI	3.19	MI
9. Reduces quality of knowledge	3.39	MI	2.55	MI
10. Teachers’ employment	3.89	HI	3.38	MI
11. Personal preference of instruction	3.79	HI	3.04	MI
12. Comfortability	3.78	HI	3.10	MI
Grand Weighted Mean	**3.60**		**2.94**	
Interpretation	**Highly Implemented**		**Moderately Implemented**	

Legend:	4.50-5.00	Extremely Implemented	(EI)
	3.50-4.49	Highly Implemented	(HI)
	2.50-3.49	Moderately Implemented	(MI)
	1.50-2.49	Slightly Implemented	(SI)
	1.00-1.49	Not Implemented	(NI)
		Weighted Mean	(WM)
		Interpretation	(I)

Taken as a whole, the student-respondents considered the level of implementation with regard to the e-learning approach along with challenges of e-learning as moderately implemented being shown by the grand weighted mean of 2.94.

In summary, the two groups arrived at a despaired perception of the level of implementation with regard to the e-learning approach along challenges of e-learning, both adjectival and numerical. The teachers gave a grand weighted mean of 3.60 (highly implemented), the students gave 2.94 (moderately implemented).

Benefits of e-Learning. Table 19 presents the perceptions of the two groups of respondents relative to the level of implementation with regard to the e-learning approach along benefits of e-learning. There were nine indicators evaluated in this area.

The table shows that the teachers considered eight indicators as highly implemented while the one indicator was considered by the same respondents as moderately implemented with weighted means ranging from 3.25 to 3.93. The indicators with the statements stating, “increase teachers’ efficiency” and “provide better learning opportunities” equally obtained the highest weighted mean.

Taken as a whole, the teachers considered the level of implementation with regard to the e-learning approach along with the benefits of e-learning as highly implemented being shown by the grand weighted mean of 3.69.

The same table shows that the students considered four indicators along with the benefits of e-learning as highly implemented and another four indicators as moderately implemented with weighted means ranging from 2.86 to 3.84. The indicators with the statements, “improve the quality of one’s work” and “increase teachers’ efficiency” equally obtained the highest weighted mean.

Taken as a whole, the student-respondents considered the level of implementation with regard to the e-learning approach along with the benefits of e-learning as moderately implemented being shown by the grand weighted mean of 2.50.

Table 19

Level of Implementation with Regard to the e-Learning Approach Based on the Perception of the Two Groups of Respondents along Benefits of e-Learning

Indicator	Teachers		Students	
	WM	I	WM	I
1. Improve the quality of one's work	3.79	HI	3.84	HI
2. Improve my job performance	3.71	HI	3.48	MI
3. Increase teachers' efficiency	3.93	HI	3.84	HI
4. Very economical	3.71	HI	3.40	MI
5. Very accessible	3.64	HI	3.45	MI
6. Work becomes more interesting	3.64	HI	3.67	HI
7. Personal preference in reading	3.57	HI	3.34	MI
8. Provide better learning opportunities	3.93	HI	3.66	HI
9. Personal preference over other online Means	3.25	MI	2.86	MI
Grand Weighted Mean	**3.69**		**2.50**	
Interpretation	**Highly Implemented**		**Moderately Implemented**	

Legend:			
	4.50-5.00	Extremely Implemented	(EI)
	3.50-4.49	Highly Implemented	(HI)
	2.50-3.49	Moderately Implemented	(MI)
	1.50-2.49	Slightly Implemented	(SI)
	1.00-1.49	Not Implemented	(NI)
		Weighted Mean	(WM)
		Interpretation	(I)

In summary, the two groups arrived at a despaired perception of the level of implementation with regard to the e-learning approach along with the benefits of e-learning, both adjectival and numerical. The teachers gave a grand weighted mean of 3.69 (highly implemented), and the students gave 2.50 (moderately implemented).

Attitude on Using Computer Systems. Table 20 presents the perceptions of the two groups of respondents relative to the level of implementation with regard to the e-learning approach along attitude on using computer systems. There were six indicators evaluated in this area.

The table shows that the teachers considered all indicators along attitude on using computer systems as moderately implemented with weighted means ranging from 2.68 to 3.32. The indicators with the statements stating, “difficulty in using e-learning tools” and “it is annoying” obtained the highest and the least weighted means, respectively.

Taken as a whole, the teachers considered the level of implementation with regard to the e-learning approach along with the attitude on using computer

Table 20

Level of Implementation with Regard to the e-Learning Approach Based on the Perception of the Two Groups of Respondents along Attitude on Using Computer Systems

Indicator	Teachers		Students	
	WM	I	WM	I
1. Difficulty in using e-learning tools	3.32	MI	3.11	MI
2. It is very frustrating	2.79	MI	3.08	MI
3. Committing more mistakes	2.78	MI	2.57	MI
4. Online interaction is unexciting	3.04	MI	2.55	MI
5. It is annoying	2.68	MI	2.62	MI
6. Allow accomplishing more work	3.21	MI	3.04	MI
Grand Weighted Mean	**2.97**		**2.82**	
Interpretation	**Moderately Implemented**		**Moderately Implemented**	

Legend:			
	4.50-5.00	Extremely Implemented	(EI)
	3.50-4.49	Highly Implemented	(HI)
	2.50-3.49	Moderately Implemented	(MI)
	1.50-2.49	Slightly Implemented	(SI)
	1.00-1.49	Not Implemented	(NI)
		Weighted Mean	(WM)
		Interpretation	(I)

systems as moderately implemented being shown by the grand weighted mean of 2.97.

The same table shows that the students considered all indicators along with the attitude on using computer systems as moderately implemented with weighted means ranging from 2.55 to 3.11. The indicators with the statements, “difficulty in using e-learning tools” and “online interaction is unexciting” were rated with the highest and the least weighted means, respectively.

Taken as a whole, the student-respondents considered the level of implementation with regard to the e-learning approach along with the attitude on using computer systems as moderately implemented being shown by the grand weighted mean of 2.82.

In summary, the two groups arrived at the same adjectival perception of the level of implementation with regard to the e-learning approach along with the attitude on using computer systems, both considered it moderately implemented. However, they differed in the numerical assessment. The teachers gave a grand weighted mean of 2.97, and the students gave 2.82.

Leisure Interest on e-Learning Innovations and Use of Computers. Table 21 presents the perceptions of the two groups of respondents relative to the level of implementation with regard to the e-learning approach along leisure interest on e-learning innovations and use of computers. There were nine indicators evaluated in this area.

The table shows that the teachers considered eight indicators along leisure interest on e-learning innovations and use of computers as highly implemented while the one indicator was considered by the same respondents

as moderately implemented with weighted means ranging from 3.39 to 4.11. The indicators with the statements stating, “communicating through social networks” and “teaching through e-learning” equally obtained the highest and the least weighted means, respectively.

Table 21

Level of Implementation with Regard to the e-Learning Approach Based on the Perception of the Two Groups of Respondents along Leisure Interest on e-Learning Innovations and the Use of Computers

Indicator	Teachers		Students	
	WM	I	WM	I
1. Discussing new e-learning innovations	3.75	HI	3.29	MI
2. Reading magazines on new technology Innovations	3.54	HI	3.32	MI
3. Working with computers	4.36	HI	3.17	MI
4. Enjoying computer games	3.50	HI	3.16	MI
5. Communicating through social networks	4.11	HI	3.74	HI
6. Delivering a lecture through electronic Technologies	3.89	HI	3.73	HI
7. Sufficiency of teaching-learning resources.	3.50	HI	3.76	HI
8. Teaching using computers	3.57	HI	3.83	HI
9. Teaching through e-learning	3.39	MI	3.29	MI
Grand Weighted Mean	**3.73**		**3.48**	
Interpretation	**Highly Implemented**		**Moderately Implemented**	

Legend:	4.50-5.00	Extremely Implemented	(EI)
	3.50-4.49	Highly Implemented	(HI)
	2.50-3.49	Moderately Implemented	(MI)
	1.50-2.49	Slightly Implemented	(SI)
	1.00-1.49	Not Implemented	(NI)
		Weighted Mean	(WM)
		Interpretation	(I)

Taken as a whole, the teachers considered the level of implementation with regard to the e-learning approach along with leisure interest on e-learning innovations and use of computers as highly implemented being shown by the grand weighted mean of 3.73.

The same table shows that the students considered four indicators along with the leisure interest on e-learning innovations and use of computers as highly implemented and another four indicators as moderately implemented with weighted means ranging from 3.16 to 3.83. The indicators with the statements, “teaching using computers” and “enjoying computer games” obtained the highest and the least weighted means, respectively.

Taken as a whole, the student-respondents considered the level of implementation with regard to the e-learning approach along with the leisure interest on e-learning innovations and use of computers as moderately implemented being shown by the grand weighted mean of 2.48.

In summary, the two groups arrived at a despaired perception of the level of implementation with regard to the e-learning approach along with the leisure interest on e-learning innovations and use of computers, both adjectival and numerical. The teachers gave a grand weighted mean of 3.73 (highly implemented), and the students gave 2.48 (moderately implemented).

Comparison of the Perceptions of the Two Groups of Respondents on the Level of Implementation with Regard to the e-Learning Approach

Table 22 contains the comparison of the perceptions of the two groups of respondents relative to the level of implementation with regard to the e-learning approach along challenges of e-learning, benefits of e-learning, attitude to using computer systems, and leisure interest in e-learning innovations and use of computers.

Challenges of e-learning. In comparing the perception between the two groups of respondents on the level of implementation with regard to the e-

learning approach along challenges of e-learning, the difference was significant (U=3617.000, p=0.000, ω=<.001). This meant that the perception of the teachers differed from the perception of the students in this area. The teachers being the implementers perceived higher than the students who were the beneficiaries of the implementation.

Benefits from e-Learning. In comparing the perception between the two groups of respondents on the level of implementation with regard to the e-learning approach along benefits of e-learning, the difference was significant (U=2976.000, p=0.025, ω=<.001). This meant that the perception of the teachers differed from the perception of the students in this area. The teachers being the implementers

Table 22

Comparison of the Perceptions of the Two Groups of Respondents on the Level of Implementation with Regard to the e-Learning Approach

Parameter	n	Mean	S^2	U-value	p-value	Evaluation/ Decision
Challenges of e-Learning						
Teachers	29	3.60	0.57	3617.000	0.000	S / Reject Ho.
Students	172	2.94	0.36			
Benefits from e-Learning						
Teachers	29	3.69	0.60	2976.000	0.025	S / Reject Ho.
Students	172	2.50	0.67			
Attitude on Using Computer Systems						
Teachers	29	2.97	0.35	2572.500	0.543	NS / Accept Ho.
Students	172	2.82	0.58			
Leisure Interest on e-Learning Innovations and the Use of Computers						
Teachers	29	3.73	0.35	2700.000	0.251	NS / Accept Ho.
Students	172	3.48	0.58			

*ω=*p*=<.001<.05 normality deviated the normal curve

perceived higher benefits than the students who were the beneficiaries of the implementation.

Attitude on Using Computer Systems. In comparing the perception between the two groups of respondents on the level of implementation with regard to the e-learning approach along attitude on using computer systems, the difference was not significant (U=2572.500, p=0.543, ω=<.001). This meant that the perception of the teachers was confirmed by the perception of the students in this area.

Leisure Interest on e-Learning Innovations and the Use of Computers. In comparing the perception between the two groups of respondents on the level of implementation with regard to the e-learning approach along leisure interest on e-learning innovations and use of computers, the difference was not significant (U=2700.000, p=0.251, ω=<.001). This meant that the perception of the teachers was confirmed by the perception of the students in this area.

Relationship Between the Perceived Level of Implementation of the Teacher-Respondents and Their Personal Variates

Table 23 presents the relationship between the perceived level of implementation of the teacher-respondents and their personal variates in terms of age, sex, civil status, highest educational attainment, teaching position, gross monthly family income, number of years in teaching, performance rating based on the latest IPCRF, types of technology literacy tools used in teaching, relevant multi-grade trainings, and attitude toward e-learning approach.

Age. In looking into the relationship between the perceived level of implementation of the teacher-respondents and their age, it can be noted that the correlation between the two variables was weak (ρ=-0.212). Fisher's t showed that age of the teachers did not influence significantly their perception of the level of implementation of e-learning (F(27)=1.085, p=0.279, ω=<.001).

Sex. In associating the relationship between the perceived level of implementation of the teacher-respondents and their sex, it can be noted that the Cramer's V between the two variables was weak (ρ=0.320). The Fisher's t showed

that it did not influence significantly their perception of the level of implementation of e-learning (F(27)=1.689, p=0.060, ω=<.001).

Civil Status. In associating the relationship between the perceived level of implementation of the teacher-respondents and their civil status, it can be noted that the Cramer's V between the two variables was very weak (ρ=0.120). The Fisher's t showed that it did not influence significantly their perception of the level of implementation of e-learning (F(27)=0.604, p=0.819, ω=<.001).

Highest Educational Attainment. In looking into the relationship between the perceived level of implementation of the teacher-respondents and their highest educational attainment, it can be noted that the correlation between the two variables was very weak (ρ=0.153). Fisher's t showed that the highest educational

attainment of the teachers did not influence significantly their perception of the level of implementation of e-learning (F(27)=0.774, p=0.496, ω=<.001).

Table 23

Relationship Between the Perceived Level of Implementation of the Teacher-Respondents and Their Personal Variates

Variate	Association		Fisher's t-Value	p-Value @ α=.05	Evaluation/ Decision
	Coefficient	Degree			
Age	ρ = -0.212	Weak	1.085	0.279	NS / Accept Ho.
Sex	*V* = 0.320 (X^2 = 5.622; df = 2)	Weak	1.689	0.060	NS / Accept Ho.
Civil Status	*V* = 0.120 (X^2 = 1.545 df = 4)	Very Weak	0.604	0.819	NS / Accept Ho.
Highest Educational Attainment	ρ = 0.153	Very Weak	0.774	0.496	NS / Accept Ho.
Teaching Position	ρ = -0.082	Very Weak	0.411	0.679	NS / Accept Ho.
Gross Monthly Family Income	ρ = 0.003	Very Weak	0.015	0.957	NS / Accept Ho.
Number of Years in Teaching	ρ = 0.020	Very Weak	0.100	0.919	NS / Accept Ho.
Performance Rating Based on the Latest IPCRF	ρ = 0.183	Very Weak	0.931	0.351	NS / Accept Ho.
Types of Technology Literacy Tools Used in Teaching	*V* = 0.190 (X^2 = 13.278; df = 13)	Very Weak	0.968	0.775	NS / Accept Ho.
Relevant In-Service Trainings	ρ = 0.125	Very Weak	0.630	0.526	NS / Accept Ho.
Attitude Toward e-Learning Approach	ρ = 0.423	Mode-rate	2.334	0.025	S / Reject Ho.

ω=*p*=<.001<.05 pairwise normality deviated from the norm S = Significant
Fisher's t-Critical = ±1.984, df = 27 NS = Not Significant

Teaching Position. In looking into the relationship between the perceived level of implementation of the teacher-respondents and their teaching position, it

can be noted that the correlation between the two variables was very weak (ρ=0.082). Fisher's t showed that the teaching position of the teachers did not influence significantly their perception of the level of implementation of e-learning (F(27)=0.411, p=0.679, ω=<.001).

Gross Monthly Family Income. In looking into the relationship between the perceived level of implementation of the teacher-respondents and their gross monthly family income, it can be noted that the correlation between the two variables was very weak (ρ=0.003). Fisher's t showed that the gross monthly family income of the teachers did not influence significantly their perception of the level of implementation of e-learning (F(27)=0.015, p=0.957, ω=<.001).

Number of Years in Teaching. In looking into the relationship between the perceived level of implementation of the teacher-respondents and their number of years in teaching, it can be noted that the correlation between the two variables was very weak (ρ=0.020). Fisher's t showed that the number of years in teaching of the teachers did not influence significantly their perception of the level of implementation of e-learning (F(27)=0.100, p=0.919, ω=<.001).

Performance Rating Based on the Latest IPCRF. In looking into the relationship between the perceived level of implementation of the teacher-respondents and their performance rating based on the latest IPCRF, it can be noted that the correlation between the two variables was very weak (ρ=0.183). Fisher's t showed that the performance rating of the teachers based on the latest IPCRF did not influence significantly their perception of the level of implementation of e-learning (F(27)=0.100, p=0.919, ω=<.001).

Types of Technology Literacy Tools Used in Teaching. In associating the relationship between the perceived level of implementation of the teacher-respondents and their types of technology literacy tools use in teaching, it can be noted that the Cramer's V between the two variables was very weak (ρ=0.190). The Fisher's t showed that it did not influence significantly their perception of the level of implementation of e-learning (F(27)=0.968, p=0.775, ω=<.001).

Relevant In-Service Training. In looking into the relationship between the perceived level of implementation of the teacher-respondents and their relevant in-service training, it can be noted that the correlation between the two variables was very weak (ρ=0.125). Fisher's t showed that the relevant in-service training of the teachers did not influence significantly their perception of the level of implementation of e-learning (F(27)=0.630, p=0.526, ω=<.001).

Attitude Toward e-Learning Approach. In looking into the relationship between the perceived level of implementation of the teacher-respondents and their attitude toward e-learning approach, it can be noted that the correlation between the two variables was moderate (ρ=0.423). Fisher's t showed that the attitude of the teachers toward e-learning approach influenced significantly their perception of the level of implementation of e-learning (F(27)=2.334, p=0.025, ω=<.001). This signified that the highly favorable attitude of the teachers to lead them to perceived that the implementation of e-learning was higher also,

Of the teacher-related profile variates, it was the attitude toward e-learning approach that showed significant influence to the implementation of e-learning. The other variates did not show any influence with it.

Level of Teaching Competence of Teacher-Respondents

This part provides the data on the level of teaching competence of teacher-respondents along planning, development, and result.

Planning. Table 24 presents the perception of the teacher-respondents on their level of teaching competence of teacher-respondents along planning.

Table 24

Level of Teaching Competence of Teacher-Respondents along Planning

Indicator	WM	I
1. Provision clear information about objectives, bibliography, tutorials, contents, and assessment methods in the subject's curriculum	4.04	H
2. Designing and relating the classroom content to the lab content	3.89	H
3. Incorporating and employing ICTs (Information and Communication Technologies)	3.89	H
4. Mastery of the contents of the course.	4.03	H
Grand Weighted Mean	**3.96**	
Interpretation	**High**	

Legend:	4.50-5.00	Very High	(VH)
	3.50-4.49	High	(H)
	2.50-3.49	Medium	(M)
	1.50-2.49	Low	(L)
	1.00-1.49	Very Low	(VL)
		Weighted Mean	(WM)
		Interpretation	(I)

There were four indicators evaluated in this area. The table shows that the teacher-respondents perceived their level of competence along planning in all indicators as high with weighted means ranging from 3.89 to 4.04. The indicator with the statement stating, “provision clear information about objectives, bibliography, tutorials, contents, and assessment methods in the subject's curriculum” obtained the highest weighted mean.

Taken as a whole, the teacher-respondents considered their level of competence along planning as high being shown by the grand weighted mean of 3.96.

Development. Table 25 presents the perception of the teacher-respondents on their level of teaching competence of teacher-respondents along development. There were 17 indicators evaluated in this area.

Table 25

Level of Teaching Competence of Teacher-Respondents along Development

Indicator	WM	I
1. Presenting the minimum content of the matter	4.18	H
2. Accessibility thru the diverse platform	4.11	H
3. Allowing the student to organize assignments	4.00	H
4. Presenting the contents clearly	4.14	H
5. Allowing and encouraging student participation	4.36	H
6. Promoting individual work	4.35	H
7. Promoting teamwork	4.21	H
8. Relating the teachings to the professional environment	4.32	H
9. Providing initial and final overviews of the class	4.18	H
10. Encouraging student interest and motivation	4.25	H
11. Facilitating student-student and student-professor interaction	4.18	H
12. Attending and responding clearly to questions	4.00	H
13. Attending the tutorials requested	3.79	H
14. Maintaining an objective and respectful position	3.78	H
15. Organizing activities for the students	4.07	H
16. Interacting with the students	3.89	H
17. Interweaving the content of the subject matter	3.82	H
Grand Weighted Mean	**4.10**	
Interpretation	**High**	

Legend:			
	4.50-5.00	Very High	(VH)
	3.50-4.49	High	(H)
	2.50-3.49	Medium	(M)
	1.50-2.49	Low	(L)
	1.00-1.49	Very Low	(VL)
		Weighted Mean	(WM)
		Interpretation	(I)

The table shows that the teacher-respondents perceived their level of competence along result as high in all indicators with weighted means ranging from 3.54 to 4.04. Consequently, the statements stating, “using material resources” and “fostering research and a critical spirit” were the indicators rated with the highest and the least weighted means, respectively. Taken as a whole, the teacher

The table shows that the teacher-respondents perceived their level of competence along development as high in all indicators with weighted means ranging from 3.78 to 4.35. The indicators with the statements stating, “promoting individual work” and “maintaining an objective and respectful position” obtained the highest and the least weighted means, respectively.

Table 26

Level of Teaching Competence of Teacher-Respondents along Result

Indicator	WM	I
1. Informing the students of the competencies they will be expected to acquire	3.89	H
2. Providing scientific information	3.86	H
3. Fostering research and a critical spirit	3.54	H
4. Applying the established curriculum	3.68	H
5. Using material resources	4.04	H
6. Designing the content and developing the course	3.89	H
Grand Weighted Mean	**3.82**	
Interpretation	**High**	

Legend:			
	4.50-5.00	Very High	(VH)
	3.50-4.49	High	(H)
	2.50-3.49	Medium	(M)
	1.50-2.49	Low	(L)
	1.00-1.49	Very Low	(VL)
		Weighted Mean	(WM)
		Interpretation	(I)

Taken as a whole, the teacher-respondents considered their level of competence along development as high being shown by the grand weighted mean of 4.10.

Result. Table 26 presents the perception of the teacher-respondents on their level of teaching competence of teacher-respondents along result. There were six indicators evaluated in this area. respondents considered their level of competence along result as high being shown by the grand weighted mean of 3.82.

Relationship Between the Level of Teaching Competence of the Teacher-Respondents and the Identified Variates

This part presents the relationship between the level of teaching competence of the teacher-respondents and the identified variates, namely: teacher-related variates and the perceived learning approach.

Teacher-Related Variates. Table 27 presents the relationship between the level of teaching competence of the teacher-respondents and their personal variates in terms of age, sex, civil status, highest educational attainment, teaching position, gross monthly family income, number of years in teaching, performance rating based on the latest IPCRF, types of technology literacy tools used in teaching, relevant multi-grade trainings, and attitude toward e-learning approach.

Age. In looking into the relationship between the perceived level of teaching competence of the teacher-respondents and their age, it can be noted that the correlation between the two variables was very weak (ρ=-0.142). Fisher's t showed that age of the teachers did not influence significantly their perception of their level of teaching competence ($F(27)=0.717$, $p=0.472$, $\omega=<.001$).

Table 27

Relationship Between the Level of Teaching Competence of the Teacher-Respondents and Their Personal Variates

Variate	Association		Fisher's t-Value	p-Value @ α=.05	Evaluation/ Decision
	Coefficient	Degree			
Age	ρ = -0.142	Very Weak	0.717	0.472	NS / Accept Ho.
Sex	*V* = 0.060 (X^2 = 0.195; df = 2)	Very Weak	0.301	0.907	NS / Accept Ho.
Civil Status	*V* = 0.180 (X^2 = 3.565 df = 4)	Very Weak	0.915	0.468	NS / Accept Ho.
Highest Educational Attainment	ρ = 0.012	Very Weak	0.060	0.958	NS / Accept Ho.
Teaching Position	ρ = 0.029	Very Weak	0.145	0.883	NS / Accept Ho.
Gross Monthly Family Income	ρ = 0.093	Very Weak	0.467	0.640	NS / Accept Ho.
Number of Years in Teaching	ρ = 0.196	Very Weak	0.999	0.318	NS / Accept Ho.
Performance Rating Based on the Latest IPCRF	ρ = 0.115	Very Weak	0.579	0.567	NS / Accept Ho.
Types of Technology Literacy Tools Used in Teaching	*V* = 0.220 (X^2 = 24.170; df = 18)	Weak	1.128	0.150	NS / Accept Ho.
Relevant In-Service Trainings	ρ = 0.149	Very Weak	0.753	0.450	NS / Accept Ho.
Attitude Toward e-Learning Approach	ρ = 0.544	Mode-rate	3.242	0.003	S / Reject Ho.

ω=*p*=<.001<.05 pairwise normality deviated from the norm
Fisher's t-Critical = ±1.984, df = 27

S = Significant
NS = Not Significant

Sex. In associating the relationship between the perceived level of teaching competence of the teacher-respondents and their sex, it can be noted

that the Cramer's V between the two variables was very weak (ρ=0.060). The Fisher's t showed that it did not influence significantly their perception of their level of teaching competence (F(27)=0.301, p=0.907, ω=<.001).

Civil Status. In associating the relationship between the perceived level of teaching competence of the teacher-respondents and their civil status, it can be noted that the Cramer's V between the two variables was very weak (ρ=0.180). Fisher's t showed that it did not influence significantly their perception of their level of teaching competence (F(27)=0.915, p=0.468, ω=<.001).

Highest Educational Attainment. In looking into the relationship between the perceived level of teaching competence of the teacher-respondents and their highest educational attainment, it can be noted that the correlation between the two variables was very weak (ρ=-0.012). Fisher's t showed that the highest educational attainment of the teachers did not influence significantly their perception of their level of teaching competence (F(27)=0.060, p=0.958, ω=<.001).

Teaching Position. In looking into the relationship between the perceived level of teaching competence of the teacher-respondents and their teaching position, it can be noted that the correlation between the two variables was very weak (ρ=0.029). Fisher's t showed that the teaching position of the teachers did not influence significantly their perception of their level of teaching competence (F(27)=0.145, p=0.883, ω=<.001).

Gross Monthly Family Income. In looking into the relationship between the perceived level of teaching competence of the teacher-respondents and their gross monthly family income, it can be noted that the correlation between the two

variables was very weak (ρ=0.093). Fisher's t showed that the gross monthly family income of the teachers did not influence significantly their perception of their level of teaching competence (F(27)=0.467, p=0.640, ω=<.001).

Number of Years in Teaching. In looking into the relationship between the perceived level of teaching competence of the teacher-respondents and their number of years in teaching, it can be noted that the correlation between the two variables was very weak (ρ=0.196). Fisher's t showed that the number of years in teaching of the teachers did not influence significantly their perception of their level of teaching competence (F(27)=0.999, p=0.318, ω=<.001).

Performance Rating Based on the Latest IPCRF. In looking into the relationship between the perceived level of teaching competence of the teacher-respondents and their performance rating based on the latest IPCRF, it can be noted that the correlation between the two variables was very weak (ρ=115). Fisher's t showed that the performance rating of the teachers based on the latest IPCRF did not influence significantly their perception of their level of teaching competence (F(27)=0.579, p=0.567, ω=<.001).

Types of Technology Literacy Tools Used in Teaching. In associating the relationship between the perceived level of teaching competence of the teacher-respondents and their types of technology literacy tools used in teaching, it can be noted that the Cramer's V between the two variables was weak (ρ=0.220). Fisher's t showed that it did not influence significantly their perception of their level of teaching competence (F(27)=1.128, p=0.150, ω=<.001).

Relevant In-Service Training. In looking into the relationship between the perceived level of teaching competence of the teacher-respondents and their

relevant in-service training, it can be noted that the correlation between the two variables was very weak (ρ=0.149). Fisher's t showed that the relevant in-service training of the teachers did not influence significantly their perception of their level of teaching competence (F(27)=0.753, p=0.450, ω=<.001).

Attitude Toward e-Learning Approach. In looking into the relationship between the perceived level of teaching competence of the teacher-respondents and their attitude toward e-learning approach, it can be noted that the correlation between the two variables was moderate (ρ=0.544). Fisher's t showed that the attitude of the teachers toward e-learning approach influenced significantly their perception of their level of teaching competence (F(27)=3.242. p=0.003, ω=<.001). This signified that the teachers with highly favorable attitude toward e-learning approach manifested higher level of teaching competence.

In summary, of the teacher-related variates, attitude toward e-learning approach posed significant influence to their level of teaching competence. The other variates did not prove any influence to it.

Perceived e-Learning Approach. Table 28 presents the relationship between the level of teaching competence of the teacher-respondents and their perceived learning approach.

Table 28

Relationship Between the Level of Teaching Competence of the Teacher-Respondents and Their Perceived e-Learning Approach

Association		Fisher's t-Value	p-Value @ α=.05	Evaluation/ Decision
Coefficient	Degree			
ρ = 0.377	Weak	2.035	0.048	S / Reject Ho.

ω=*p*=<.001<.05 pairwise normality deviated from the norm
Fisher's t-Critical = ±1.984, df = 27

S = Significant
NS = Not Significant

In looking into the relationship between the level of teaching competence of the teacher-respondents and their perceived e-learning approach, it can be noted that the correlation between the two variables was weak (ρ=0.377). Fisher's t showed that the perceived e-learning approach influenced significantly their level of teaching competence (F(27)=2.035. p=0.048, ω=<.001). This signified that the teachers with the higher perception of the e-learning approach manifested a higher level of teaching competence.

Academic Performance of Student-Respondents

Table 29 reveals the academic performance of student-respondents.

Table 29

Academic Performance of Student-Respondents

Rating	F	%
90-92	13	7.55
87-89	34	19.77
84-86	84	48.84
81-83	41	23.84
Total	**172**	**100.00**

The table shows that the number of student-respondents, that is, 84 or 48.84 percent obtained a rating of 84-86 while 41 or 23.84 percent obtained a rating of 81-83, and the rest were distributed to the other identified rating brackets.

The foregoing data signified that the student-respondents manifested favorable performance.

Relationship Between the Academic Performance of the Student-Respondents and the Identified Factors

This part presents the relationship between the academic performance of the student-respondents and the identified factors, namely: student-related variates, perceived e-learning approach, and level of teaching competence.

Student-Related Variates. Table 30 presents the relationship between the academic performance of the student-respondents and their profile variates in terms of age, sex, parents' highest educational attainment, parents' occupation, gross monthly family income, types of technology used in learning, and attitude toward e-learning approach.

Age. In looking into the relationship between the academic performance of the students and their age, it can be noted that the correlation between the two variables was very weak (ρ=-0.046). Fisher's t showed that age of the students did not influence significantly their academic performance (F(170)=0.600, p=0.557, ω=<.001).

Sex. In associating the relationship between the academic performance of the student-respondents and their sex, it can be noted that the Cramer's V between the two variables was very weak (ρ=0.080). The Fisher's t showed that it did not influence significantly their perception of their level of teaching competence (F(170)=1.046, p=0.411, ω=<.001).

Parents' Highest Educational Attainment. In looking into the relationship between the academic performance of the students and their parents' highest educational attainment, it can be noted that the correlation between the two variables was very weak (ρ=-0.053). Fisher's t showed that

Table 30

Relationship Between the Academic Performance of the Student-Respondents and Their Personal Variates

Variate	Association		Fisher's t-Value	p-Value @ α=.05	Evaluation/ Decision
	Coefficient	Degree			
Age	ρ = -0.046	Very Weak	0.600	0.557	NS / Accept Ho.
Sex	*V* = 0.080 (X^2 = 9.294; df = 9)	Very Weak	1.046	0.411	NS / Accept Ho.
Parents' Highest Educational Attainment	ρ = 0.053	Very Weak	0.692	0.490	NS / Accept Ho.
Gross Monthly Family Income	ρ = 0.037	Very Weak	0.483	0.643	NS / Accept Ho.
Types of Technology Used in Learning	*V* = 0.070 (X^2 = 15.366; df = 18)	Very Weak	0.915	0.637	NS / Accept Ho.
Attitude Toward e-Learning Approach	ρ = 0.064	Very Weak	0.836	0.402	NS / Accept Ho.

ω=*p*=<.001<.05 pairwise normality deviated from the norm S = Significant
Fisher's t-Critical = ±1.984, df = 170 NS = Not Significant

parents' highest educational attainment of the students did not influence significantly their academic performance (F(170)=0.692, p=0.490, ω=<.001).

Gross Monthly Family Income. In looking into the relationship between the academic performance of the students and their gross monthly family income, it can be noted that the correlation between the two variables was very weak (ρ=0.037). Fisher's t showed that gross monthly family income of the

students did not influence significantly their academic performance (F(170)=0.483, p=0.643, ω=<.001).

Types of Technology Used in Learning. In associating the relationship between the academic performance of the student-respondents and their types of technology used in learning, it can be noted that the Cramer's V between the two variables was very weak (ρ=0.070). Fisher's t showed that it did not influence significantly their perception of their level of teaching competence (F(170)=0.915, p=0.637, ω=<.001).

Attitude Toward e-Learning Approach. In looking into the relationship between the academic performance of the students and their attitude toward e-learning approach, it can be noted that the correlation between the two variables was very weak (ρ=0.064). Fisher's t showed that the attitude of the students toward e-learning approach did not influence significantly their academic performance (F(170)=0.836, p=0.402, ω=<.001).

In summary, none of the student-related variates posted significant influence to their academic performance.

Table 31

Relationship Between the Academic Performance of the Student-Respondents and Their Perceived e-Learning Approach

Association		Fisher's t-Value	p-Value @ α=.05	Evaluation/ Decision
Coefficient	Degree			
ρ = 0.022	Very Weak	0.287	0.775	NS / Accept Ho.

ω=*p*=<.001<.05 pairwise normality deviated from the norm
Fisher's t-Critical = ±1.984, df = 170

S = Significant
NS = Not Significant

Perceived e-Learning Approach. Table 31 presents the relationship between the academic performance of the student-respondents and their perceived e-learning approach.

In looking into the relationship between the academic performance of the students and their perceived e-learning approach, it can be noted that the correlation between the two variables was very weak (ρ=0.022). Fisher's t showed that the perceived learning approach of the students did not influence significantly their academic performance (F(170)=0.287, p=0.775, ω=<.001).

Level of Teaching Competence of Teachers. Table 32 presents the relationship between the academic performance of the student-respondents and the level of teaching competence of teachers.

Table 32

Relationship Between the Academic Performance of the Student-Respondents and the Level of Teaching Competence of Teachers

Association		Fisher's t-Value	p-Value @ α=.05	Evaluation/ Decision
Coefficient	Degree			
ρ = 0.020	Very Weak	0.261	0.792	NS / Accept Ho.

ω=*p*=<.001<.05 pairwise normality deviated from the norm S = Significant
Fisher's t-Critical = ±1.984, df = 170 NS = Not Significant

In looking into the relationship between the academic performance of the students and the level of teaching competence of teachers, it can be noted that the correlation between the two variables was very weak (ρ=0.020). Fisher's t showed that the level of teaching competence did not influence significantly the academic performance of the students (F(170)=0.261, p=0.792, ω=<.001).

Chapter 5

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents the summary of findings with the corresponding conclusions drawn from them and the recommendations based on the conclusions drawn from the findings of the study.

Summary of Findings

The following were the salient findings of the study:

1. The teacher-respondents were aged 31 years old, dominated by the female sex who were married with units in the master's program appointed to the Teacher I position earning a monthly income of 27,374.50 in gross who had been teaching for 8 years garnering a performance rating of 5 with an adjectival interpretation of outstanding primarily using computers with internet, multi-link headphones and audio recording software in teaching, always attended school-level training and manifested highly favorable attitude toward e-learning approach.

2. The student-respondents were 12 years old mostly females whose parents were elementary graduates with an undisclosed monthly income using computers and word processors in learning who manifested moderately favorable attitudes toward the e-learning approach,

3. In the perception of the level of implementation of the e-learning approach along with the challenges of e-learning, benefits of e-learning, attitude

on using computer systems, and leisure interest on e-learning innovations and use of computers, the teacher-respondents considered them highly implemented while the students considered them moderately implemented.

4. In comparing the perceptions of the two groups of respondents relative to the level of implementation with regard to the e-learning approach, it was significant along challenges of e-learning and benefits of e-learning while it was not significant along attitude to using computer systems, and leisure interest in e-learning innovations and use of computers.

5. In associating the relationship between the perceived level of implementation of the teacher-respondents and their personal variates, it was significant in terms of attitude toward the e-learning approach and it was not significant in terms of age, sex, civil status, highest educational attainment, teaching position, gross monthly family income, number of years in teaching, performance rating based on the latest IPCRF, types of technology literacy tools used in teaching, and relevant multi-grade training.

6. The level of teaching competence of teacher-respondents based on the perception of the teachers themselves was high along planning, development, and result.

7. In associating the relationship between the level of teaching competence of the teacher-respondents and their personal variates, it was significant in terms of attitude toward the e-learning approach and it was not significant in terms of age, sex, civil status, highest educational attainment, teaching position, gross monthly family income, number of years in teaching,

performance rating based on the latest IPCRF, types of technology literacy tools used in teaching, and relevant multi-grade training.

8. In looking into the relationship between the level of teaching competence of the teacher-respondents and their perceived e-learning approach, it was found significant,

9. The modal academic performance of the students was posted at 85,

10. In associating the relationship between the academic performance of the student-respondents and their profile variates, it was found not significant in terms of age, sex, parents' highest educational attainment, parents' occupation, gross monthly family income, types of technology used in learning, and attitude toward e-learning approach.

11. In looking into the relationship between the academic performance of the students and their perceived e-learning approach, it was found not significant.

12. In looking into the relationship between the academic performance of the students and the level of teaching competence of teachers, it was not significant.

Conclusions

From the findings of the study, the following conclusions were drawn:

1. The teacher-respondents possessed the qualifications to the teaching position they were appointed and based on their profile, they were eligible to serve as respondents of the study.

2. The student-respondents also possessed the characteristics that qualified them as respondents of the study.

3. The two groups of respondents arrived at a despaired perception of the level of implementation with regard to the e-learning approach along with challenges of e-learning, benefits of e-learning, attitude on using computer systems, and leisure interest in e-learning innovations and use of computers, both adjectival and numerical. The teachers considered them highly implemented, the students considered them moderately implemented.

4. The perceptions of the two groups of respondents relative to the level of implementation with regard to the e-learning approach differed along challenges of e-learning and benefits of e-learning while it was similar along attitude to using computer systems, and leisure interest in e-learning innovations and use of computers.

5. Of the teacher-related profile variates, it was the attitude toward e-learning approach that showed significant influence to the implementation of e-learning. The other variates did not show any influence with it.

6. The teacher-respondents manifested exemplary teaching competence along planning, development, and results.

7. Of the teacher-related variates, attitude toward the e-learning approach posed a significant influence on their level of teaching competence. The other variates did not prove any influence on it.

8. The perceived e-learning approach influenced significantly their level of teaching competence which signified that the teachers with a higher

perception of the e-learning approach manifested a higher level of teaching competence.

9. The students manifested favorable academic performance.

10. None of the student-related variates posted significant influence to their academic performance.

11. The academic performance of the students was not influenced by their perceived level of implementation of e-learning and the teaching competence of teachers.

Recommendations

Based on the conclusions drawn from the findings of the study, the following recommendations are offered:

1. In as much as the implementation of the e-learning approach was high however, it did not influence the academic performance of the students, there is a need to revisit the implementation by looking into the indicators used in the assessment.

2. As it was found out that the teachers' teaching competence did not influence the academic performance, there is a need to look into the appropriateness of the teaching pedagogies particularly with regard to e-learning approach.

3. As the attitude toward the e-learning approach served as correlate to both respondents, their favorable attitude toward it should be sustained by providing technical support.

4. Upskilling and reskilling of teachers in computer to be utilized in their lessons across learning areas in order to level up their teaching competences and thus, enhance the students' academic achievement.

5. Integrate e-learning activities in teaching-learning delivery.

6. Another study may be conducted to validate the findings of the study.

Chapter 6

INTERVENTION PROGRAM

This chapter unveils the researcher's proposed intervention, meticulously aligned with the discoveries and recommendations derived from this research. This multifaceted intervention called Project D.I.G.I.T.S or "Advancing Digital Instruction for Technological and Information Growth in Schools" encompasses the underlying rationale, overarching objectives, key attributes of the action plan, the strategic roadmap for execution, comprehensive monitoring and evaluation protocols, and essential budgetary considerations.

Rationale

In the contemporary educational landscape, there are compelling reasons for the integration of digital technology and information management into the fabric of education. The rationale for Project D.I.G.I.T.S is rooted in several concrete factors and educational imperatives. The 21st century is marked by rapid technological advancement and digital transformation. With the advent of the Internet, mobile devices, and an array of digital tools and resources, the world has become more interconnected and information-rich than ever before. To prepare students for this digitally-driven world, it is imperative that education evolves accordingly.

Moreover, the digital age has democratized access to information. Students now have the world's knowledge at their fingertips, making traditional rote learning less relevant. It is essential for education to leverage this wealth of

information and guide students in critical thinking, information evaluation, and responsible usage. Additionally, digital tools and multimedia resources are inherently engaging. They can make learning more interactive and relatable for students. Incorporating technology, education can better capture students' attention, fostering an environment where learning is not only effective but enjoyable. Furthermore, the workforce of today and the future requires digital literacy. Jobs in various fields demand knowledge of digital tools, data analysis, and information management. Preparing students with these skills is an obligation to ensure their future success.

In tandem, digital tools enable personalized and differentiated learning. They allow educators to cater to individual student needs and provide tailored instruction. This promotes academic growth and ensures that no student is left behind. Additionally, digital platforms facilitate collaboration on a global scale. Students can connect with peers and experts worldwide, expanding their horizons and fostering a sense of global citizenship. It's worth noting that digitized educational materials and resources are often more cost-effective in the long run. Traditional textbooks and printed materials can be expensive and quickly outdated, while digital resources are easily updated and eco-friendlier.

In response to these compelling educational imperatives, Project D.I.G.I.T.S is a visionary response. It recognizes that traditional teaching methods are no longer sufficient for preparing students for the digital, information-rich world they will inherit. Integrating digital technology and information management into education, Project D.I.G.I.T.S aims to transform teaching and learning. The

project ensures that students are not only academically proficient but also technologically and informationally competent, ready to thrive in the digital age.

Objectives

The primary objective of Project D.I.G.I.T.S is to empower schools and educators to embrace digital instruction and leverage technology for a profound enhancement of educational outcomes. This ambitious mission encompasses several specific and critical goals. Firstly, the project is dedicated to fostering digital literacy and technological competence among both teachers and students. Through comprehensive training and development initiatives, it aims to equip them with the necessary skills to navigate the digital landscape confidently and effectively.

In addition, Project D.I.G.I.T.S commits to the seamless integration of digital tools into the educational curriculum. This integration is designed to create an interactive, dynamic, and engaging learning environment that enriches the educational experience for students. Incorporating these innovative tools, the project seeks to unlock new dimensions of learning, making education not only effective but also enjoyable.

Moreover, the project recognizes the abundant educational resources and information available in the digital sphere. To fully harness this wealth of knowledge, Project D.I.G.I.T.S will facilitate comprehensive learning and development activities for teachers. This will empower educators to not only access but also effectively utilize these resources, thereby enhancing the quality and breadth of education they can offer to their students.

Project D.I.G.I.T.S is not merely a technology integration initiative; it represents a holistic transformation of the educational landscape. Nurturing digital competence, integrating cutting-edge tools into the curriculum, and ensuring access to a wealth of resources, the project aspires to revolutionize education, benefitting both educators and students in profound ways.

Features of the Intervention Scheme

Project D.I.G.I.T.S introduces a range of critical features at the heart of its educational transformation endeavor. Foremost among these is a meticulously crafted strategy that seamlessly integrates digital instruction into the existing curricula. By doing so, the project ensures that technology becomes an organic and integral component of the learning process, enriching education in a holistic manner.

To support this integration, Project D.I.G.I.T.S has designed extensive training programs that are tailor-made for educators. These programs aim to equip teachers with the essential skills and knowledge they need to effectively employ technology in their teaching methods. In essence, the project recognizes that teachers play a central role in the success of this digital transition.

Moreover, the project extends its focus to students, centering on enhancing their digital literacy. These programs guide students in the responsible and effective use of digital resources, enabling them to navigate the digital realm with confidence and a sense of digital citizenship.

Recognizing the significance of access to digital resources, Project D.I.G.I.T.S works to bridge the digital divide by ensuring that schools receive

improved access to a wealth of digital libraries, databases, and educational platforms. This enriches the learning experience, providing a wide array of knowledge and educational materials for both educators and students.

Furthermore, the project establishes a dedicated technical support system for schools, which is crucial in the digital age. This system is in place to assist schools in navigating and overcoming any digital challenges they may encounter. This support ensures that schools can transition smoothly into the digital age of education, with the assurance that they have assistance readily available.

Strategy of Implementation

The strategy of implementation for Project D.I.G.I.T.S employs a structured and phased approach to ensure a smooth transition into the digital realm of education:

Needs Assessment. The first critical step involves conducting a comprehensive needs assessment for each school within the project. This assessment aims to identify the specific digital requirements and readiness levels of individual educational institutions. It considers factors such as the existing technological infrastructure, digital proficiency among teachers, and the availability of digital resources.

Teacher Training. Once the needs assessment is complete, the project proceeds to the next phase by conducting intensive training sessions for educators. These training programs are carefully designed to ensure that teachers acquire the competence and confidence needed to effectively utilize digital tools and resources in their teaching methods. The focus is on not just

introducing technology but also on empowering educators to leverage it for improved instruction.

Curriculum Integration. With teachers better equipped to embrace digital instruction, the project collaborates closely with schools to integrate digital elements into their teaching programs. This collaborative effort ensures that the integration is seamless and aligns with the goals and requirements of each institution. The emphasis is on enhancing the curriculum to facilitate interactive, dynamic, and engaging learning experiences for students.

Resource Procurement. The project recognizes the importance of acquiring the necessary digital resources and tools. This phase involves the procurement of digital materials, software, and hardware required to support the curriculum integration. It ensures that schools have access to the technological resources needed to make digital instruction a reality.

Technical Support. The final phase involves establishing a dedicated technical support system. This system is essential to provide schools with ongoing technical assistance and troubleshooting. It ensures that schools can navigate the challenges and complexities associated with digital education with confidence, knowing that they have a support network in place.

Monitoring and Evaluation

Sustained monitoring and evaluation represent integral components of Project D.I.G.I.T.S, ensuring the project's ongoing success. Regular assessments, conducted periodically, play a pivotal role in measuring the effectiveness of digital integration within schools. This data-driven approach is

complemented by a continuous feedback mechanism involving educators, students, and technical support. This real-time feedback loop informs the project's adaptive strategy and facilitates necessary program adjustments.

Furthermore, the project meticulously collects and analyzes data on academic performance and digital resource utilization to gauge the overall impact. Closely examining these metrics, the project can measure the direct influence of digital integration on academic outcomes. This analytical process serves as a compass for making informed decisions and ensuring that the project remains aligned with its educational objectives.

In addition, Project D.I.G.I.T.S places a significant emphasis on maintaining quality standards for digital content. This commitment to quality ensures that the educational materials used in the digital realm meet rigorous standards. This quality control mechanism is continuously upheld to ensure that students and educators have access to the highest caliber digital resources.

In summation, the ongoing monitoring and evaluation processes within Project D.I.G.I.T.S are not only data-driven but also feedback-centric, ensuring the project remains dynamic and adaptable. Consistently assessing, adjusting, and maintaining quality, the project aims to maximize its impact on the educational landscape.

Budgetary Requirements

The allocation of funds for project-related activities is a critical component and should be integrated into the schools' Work and Financial Plan (AIP). This financial plan should encompass not only the school's own budgetary resources

but also include provisions for funds derived from the Special Education Fund (SEF), grants, and donations. This comprehensive financial strategy is essential to cover the necessary budgetary expenses essential for the successful execution of the project.

Training Proposal for Project Training Proposal for Project D.I.G.I.T.S (Advancing Digital Instruction for Technological and Information Growth in Schools)

Area of Concern	Objectives	Strategies	Resources	Responsible Person	Time Frame	Success Indicators
Need for advancement in digital instruction.	Equip educators with the necessary skills to effectively integrate digital tools into their teaching methodologies.	Organize workshops to train teachers in utilizing digital tools, interactive learning platforms, and online resources effectively.	Training Modules and Materials	School Head, ICT Coordinators, Trainers and Facilitators, Teachers	November 23-27, 2023	Increased Digital Proficiency
	Foster a learning environment where students can develop technological literacy and leverage digital resources for academic growth.	Collaborate with curriculum developers to incorporate technology-driven modules into the existing academic curriculum.	Digital Devices and Infrastructure			Enhanced Student Engagement
	Facilitate the use of digital platforms to broaden students' access to information and enhance their research capabilities.	Provide schools with the necessary digital infrastructure, including devices and high-speed internet, to support a seamless transition to digital learning.	Expert Facilitators			Improved Access to Information

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APPENDICES

APPENDIX A

APPROVAL OF RESEARCH TITLE

Samar Colleges, Inc.
College of Graduate Studies
Catbalogan City

July 27, 2023

DR. NIMFA T. TORREMORO
Dean, College of Graduate Studies
Samar College

Madame:

The undersigned will enroll in thesis writing this **First** Semester, School Year 2023-2024. In this regard, I would like to present the following proposed thesis titles, preferably number **1** for your evaluation, suggestions, and recommendations:

1. **E-LEARNING APPROACH AND ITS INFLUENCE TO TEACHERS' COMPETENCE AND STUDENTS' ACADEMIC ACHIEVEMENT**
2. IMPLEMENTATION OF SCHOOL-BASED MANAGEMENT SYSTSYSTE AMONG SECONDARY AND ELEMENTARY SCHOOLS
3. ELEMENTARY AND SECONDARY SCHOOLS READINESS IN THE IMPLEMENTATION OF FACE-TO-FACE CLASSES

Very truly yours,

(SGD.) **IRIS Q. MALABARBAS**
Researcher

1 (SGD.) RENNO JOSE B. GABUYA, EdD
Evaluator

1 (SGD.) IMELDA M. UY, EdD
Evaluator

1 (SGD.) LETECIA R. GUERRA, PhD
Evaluator

Approved Title Number: **1**

Approved:

(SGD.) **NIMFA T. TORREMORO, PhD**
Dean, College of Graduate Studies

APPENDIX B

ASSIGNMENT OF ADVISER

Republic of the Philippines
Commission on Higher Education
Region VIII
SAMAR COLLEGES, INC.
COLLEGE OF GRADUATE STUDIES
City of Catbalogan

NAME : IRIS Q. MALABARBAS

COURSE : Master of Arts in Education

MAJOR : Elementary Education

TITLE OF THESIS **:** E-LEARNING APPROACH AND ITS INFLUENCE ON TEACHERS' COMPETENCE AND STUDENTS' ACADEMIC ACHIEVEMENT

NAME OF ADVISER : RENNO JOSE B. GABUYA, EdD

(SGD.) **IRIS Q. MALABARBAS**
Researcher

Conforme:

(SGD.) **RENNO JOSE B. GABUYA, EdD**
Adviser

Approved:

(SGD.) **NIMFA T. TORREMORO, PhD**
Dean, College of Graduate Studies

APPENDIX C

QUESTIONNAIRE FOR THE TEACHER RESPONDENTS

Samar Colleges, Inc.
Catbalogan City

July 27, 2023

Dear Respondent:

Warm Greetings!

I am currently taking up a Master of Arts in Education major in Educational Management, at Samar Colleges, Inc. Presently, I am conducting a research entitled, **"E-LEARNING APPROACH AND ITS INFLUENCE TO TEACHERS' COMPETENCE AND STUDENTS' ACADEMIC ACHIEVEMENT",** in partial fulfillment of the requirements for the degree for which I am currently enrolled.

In this respect, I would like to request you to become one of the respondents of this study. Rest assured that your responses will be used solely for research purposes only and will be treated with the utmost confidentiality.

Thank you very much and more power!

Sincerely yours,

(SGD.) **IRIS Q. MALABARBAS**
Researcher

PART I. PERSONAL PROFILE

Directions: Please indicate your answer with a check mark (*/*) or write the data on the blank provided before/after each item.

1. Name:(Optional)_____

2. Sex: _____ 3. Age: _____

4. Civil Status:
____Single ____Widow
____Married ____Widower

5. Highest Educational Attainment:

____ Doctorate Degree
____ Doctorate Units
____ Master's Degree
____ Master's Unit
____ Baccalaureate Degree

6. Teaching Position:
____ Teacher 1
____ Teacher II
____ Teacher III
____ Master Teacher I
____ Master Teacher II

7. Gross Monthly Income: _____

8. Number of years in teaching: _____

9. Latest performance rating based on the IPCRF:
Numerical: _____
Adjectival: _____

10. Types of technology literacy tools used in teaching (check all that apply)
____ Computers
____ Developmentally appropriate programs
____ Internet
____ Word processors
____ multi-link headphones
____ digital cameras
____ webcams
____ audio recording software
____ walkie-talkies, telephones that encourage the development of speaking and listening skills
____ Interactive whiteboards and smartboards
____ Others, please specify _____

7. Relevant in-service trainings:

Level	**4 Always**	**3 Oftentimes**	**2 Sometimes**	**1 Never**
School				
District				
Division				
Region				
National				

PART II. ATTITUDE TOWARD e-LEARNING

Directions: Below are some statements that may or may not describe your attitude toward school management and supervision. Kindly indicate your response by putting a checkmark (/) on each of the statements that correspond to your answer using the scale below:

5	-	Strongly agree	(SA)
4	-	Agree	(A)
3	-	Neutral	(N)
2	-	Disagree	(D)
1	-	Strongly Disagree	(SD)

Statements	5 (SA)	4 (A)	3 (U)	2 (D)	1 (SD)
1. I think distance education is not a viable alternative to learning compared to face-to-face environments					
2. I believe students learn less in distance education courses.					
3. I feel that grades will be lower for students in a distance education class					
4. I believe there is less student-teacher interaction in distance education environments					
5. I feel there is a high degree of depersonalization and anomie among students and teachers in distance education					
6. I believe there is more academic dishonesty (cheating, plagiarism) in online courses					
7. I think student discussions in distance education courses will seem impersonal and lack feeling compared to face-to-face classes					
8. I believe educational goals can be easily achieved through e-learning					
9. I believe E-learning provides an opportunity for positive interaction between students with one another					
10. I feel that E-learning improves the student's self-learning skills					

PART III. IMPLEMENTATION OF e-LEARNING APPROACH

Directions Below are some statements that refer to the e-learning approach. Kindly ascertain your level of agreement on each of the fowling statements given a specific indicator by putting a checkmark on the box that corresponds to your answer using the scale below:

5	-	Extremely Implemented	(EI)
4	-	Highly Implemented	(HI)
3	-	Moderately Implemented	(MI)
2	-	Slightly Implemented	(SI)
1	-	Not Implemented	(NI)

Statements	5 (SA)	4 (A)	3 (U)	2 (D)	1 (SD)
A. CHALLENGES OF E-LEARNING					
1. Supporting learners in an e-learning environment.					
2. Expensive technical support for e-learning					
3. Discussions on e-learning technologies					
4. Using computer systems.					
5. e-learning infrastructure					
6. Social isolation					
7. Difficult to use					
8. Interacting with the computer system					
9. Reduces quality of knowledge					
10. Teachers' employment					
11. Personal preference of instruction					
12. Comfortability					
B. BENEFITS FROM E-LEARNING					
1. Improve the quality of one's work					
2. Improve my job performance					
3. Increase teachers' efficiency					
4. Very economical					
5. Very accessible.					
6. Work becomes more interesting					
7. Personal preference in reading					
8. Provide better learning opportunities					
9. Personal preference over other online means					
C. ATTITUDE ON USING COMPUTER SYSTEMS					
1. Difficulty in using e-learning tools					
2. It is very frustrating					
3. Committing more mistakes					

4. Online interaction is unexciting					
5. It is annoying					
6. Allow accomplishing more work					
D. LEISURE INTEREST ON E-LEARNING INNOVATIONS AND THE USE OF COMPUTERS					
1. Discussing new e-learning innovations					
2. Reading magazines on new technology innovations					
3. Working with computers					
4. Enjoying computer games					
5. Communicating through social networks					
6. Delivering a lecture through electronic technologies					
7. Sufficiency of teaching-learning resources					
8. Teaching using computers					
9. Teaching through e-learning					

Adapted from Kisanga, D & Ireson, G. 2016. est of e-Learning Related Attitudes (TeLRA) scale: Development, reliability and validity study. International Journal of Education and Development using Information and Communication Technology (IJEDICT), 2016, Vol. 12, Issue 1, pp. 20-36

PART. IV. TEACHERS' COMPETENCE

Directions: Below are some statements that describe teachers' competence along identified parameters. Kindly assert your answer by putting a check mark (*/*) on the appropriate box that corresponds to your response using the scale below.

5 - Very High (VH)
4 - High (H)
3 - Medium (M)
2 - Low (L)
1 - Very Low (VL)

Statements	**5 (VH)**	**4 (H)**	**3 (M)**	**2 (L)**	**1 (VL)**
A. PLANNING					
1. Provision clear information about objectives, bibliography, tutorials, contents, and assessment methods in the subject's curriculum					
2. Designing and relating the classroom content to the lab content					
3. Incorporating and employing ICTs (Information and Communication Technologies)					

4. Mastery of the contents of the course					
B. DEVELOPMENT					
1. Presenting the minimum content of the matter.					
2. Accessibility thru the diverse platform					
3. Allowing the student to organize assignments					
4. Presenting the contents clearly					
5. Allowing and encouraging student participation					
6. Promoting individual work					
7. Promoting teamwork					
8. Relating the teachings to the professional environment					
9. Providing initial and final overviews of the class					
10. Encouraging student interest and motivation					
11. Facilitating student-student and student-professor interaction					
12. Attending and responding clearly to questions					
13. Attending the tutorials requested					
14. Maintaining an objective and respectful position					
15. Organizing activities for the students					
16. Interacting with the students					
17. Interweaving the content of the subject matter					
C. RESULT					
1. Informing the students of the competencies they will be expected to acquire					
2. Providing scientific information					
3. Fostering research and a critical spirit					
4. Applying the established curriculum					
5. Using material resources					
6. Designing the content and developing the course					

Adopted from Moreno-Murcia, A.,Torregrosa, Y., Pedreño, N. 2015. Questionnaire evaluating teaching competencies in the university environment. Evaluation of teaching competencies in the university. New Approaches in Educational Research. Vol. 4. No. 1. January 2015 pp. 54-61 ISSN: 2254-7399 DOI: 10.7821/naer.2015.1.106

THANK YOU !!!

APPENDIX D

QUESTIONNAIRE FOR THE SCHOOL STUDENT RESPONDENTS

Samar Colleges, Inc.
Catbalogan City

July 27, 2023

Dear Respondent:

Warm Greetings!

I am currently taking up a Master of Arts in Elementary Education in Education, at Samar Colleges, Inc. Presently, I am conducting a research entitled, **"E-LEARNING APPROACH AND ITS INFLUENCE TO TEACHERS' COMPETENCE AND STUDENTS' ACADEMIC ACHIEVEMENT",** in partial fulfillment of the requirements for the degree for which I am currently enrolled.

In this respect, I would like to request you to become one of the respondents of this study. Rest assured that your responses will be used solely for research purposes only and will be treated with the utmost confidentiality.

Thank you very much and more power!

Sincerely yours,

(SGD.) **IRIS Q. MALABARBAS**
Researcher

Part I. DEMOGRAPHIC PROFILE

Directions**:** Please indicate your answer with a check mark (*/*) or write the data on the blank provided before/after each item.

1. Name:(Optional)_____

2. Sex: _____ 3. Age: _____

3. Parents' Highest Educational Attainment:
____ Masters Degree

____ College graduate
____ College Undergraduate
____ High School Graduate
____ High school undergraduate
____ Elementary Graduate
____ Elementary Undergraduate

4. Gross Monthly Family Income: _____

5. Types of technology used in learning

Types of Reading Materials at Home	Yes	No
Digital readers and tablets.		
Laptop		
3D printing.		
Virtual reality.		
Gamification.		
Cloud technology.		
Artificial intelligence.		
Computers		
Internet		
Word processors		
multi-link headphones		
digital cameras		
webcams		
audio recording software		
Others, specify: _____		

PART II. ATTITUDE TOWARD e-LEARNING

Directions: Below are some statements that may or may not describe your attitude toward school management and supervision. Kindly indicate your response by putting a checkmark (*/*) on each of the statements that correspond to your answer using the scale below:

5 - Strongly agree (SA)
4 - Agree (A)
3 - Neutral (N)
2 - Disagree (D)
1 - Strongly Disagree (SD)

Statements	5 (SA)	4 (A)	3 (U)	2 (D)	1 (SD)
1. I think distance education is not a viable alternative to learning compared to face-to-face environments					
2. I believe students learn less in distance education courses.					
3. I feel that grades will be lower for students in a distance education class					
4. I believe there is less student-teacher interaction in distance education environments					
5. I feel there is a high degree of depersonalization and anomie among students and teachers in distance education					
6. I believe there is more academic dishonesty (cheating, plagiarism) in online courses					
7. I think student discussions in distance education courses will seem impersonal and lack feeling compared to face-to-face classes					
8. I believe educational goals can be easily achieved through e-learning					
9. I believe E-learning provides an opportunity for positive interaction between students with one another					
10. I feel that E-learning improves the student's self-learning skills					

PART III. IMPLEMENTATION OF e-LEARNING APPROACH

Directions: Below are some statements that refer to the e-learning approach. Kindly ascertain your level of agreement on each of the fowling statements given a specific indicator by putting a checkmark on the box that corresponds to your answer using the scale below:

5	-	Extremely Implemented	(EI)
4	-	Highly Implemented	(HI)
3	-	Moderately Implemented	(MI)
2	-	Slightly Implemented	(SI)
1	-	Not Implemented	(NI)

Statements	5 (SA)	4 (A)	3 (U)	2 (D)	1 (SD)
A. CHALLENGES OF E-LEARNING					
13. Supporting learners in an e-learning environment.					
14. Expensive technical support for e-learning					
15. Discussions on e-learning technologies					
16. Using computer systems.					
17. e-learning infrastructure					
18. Social isolation					
19. Difficult to use					
20. Interacting with the computer system					
21. Reduces quality of knowledge					
22. Teachers' employment					
23. Personal preference of instruction					
24. Comfortability					
B. BENEFITS FROM E-LEARNING					
10. Improve the quality of one's work					
11. Improve my job performance					
12. Increase teachers' efficiency					
13. Very economical					
14. Very accessible.					
15. Work becomes more interesting					
16. Personal preference in reading					
17. Provide better learning opportunities					
18. Personal preference over other online means					
C. ATTITUDE ON USING COMPUTER SYSTEMS					
7. Difficulty in using e-learning tools					
8. It is very frustrating					
9. Committing more mistakes					
10. Online interaction is unexciting					
11. It is annoying					
12. Allow accomplishing more work					
D. LEISURE INTEREST ON E-LEARNING INNOVATIONS AND THE USE OF COMPUTERS					
10. Discussing new e-learning innovations					
11. Reading magazines on new technology innovations					
12. Working with computers					
13. Enjoying computer games					
14. Communicating through social networks					

15. Delivering a lecture through electronic technologies					
16. Sufficiency of teaching-learning resources					
17. Teaching using computers					
18. Teaching through e-learning					

Adapted from Kisanga, D & Ireson, G. 2016. est of e-Learning Related Attitudes (TeLRA) scale: Development, reliability and validity study. International Journal of Education and Development using Information and Communication Technology (IJEDICT), 2016, Vol. 12, Issue 1, pp. 20-36

THANK YOU !!!

APPENDIX E

REQUEST LETTER TO THE SCHOOLS DIVISION SUPERINTENDENT

Samar Colleges, Inc.
Catbalogan City

July 27, 2023

MOISES D. LABIAN, JR., PhD, CESO VI
Schools Division Superintendent
Schools Division of Samar
City of Catbalogan

Dear Sir Labian:

Warm greetings!

I am currently taking up a Master of Arts in Education major in Educational Management, at Samar Colleges, Inc. Presently, I am conducting a research entitled, **"E-LEARNING APPROACH AND ITS INFLUENCE TO TEACHERS' COMPETENCE AND STUDENTS' ACADEMIC ACHIEVEMENT",** in partial fulfillment of the requirements for the degree for which I am currently enrolled. In this respect, I would like to respectfully request permission from your good office to allow us to conduct this study among elementary and secondary teachers in the Schools Division of Samar.

Rest assured that their privacy will be taken care of with utmost confidentiality and their responses will be used for research purposes only. A copy of the final research will be forwarded to your good office for reference.

Thank you very much and more power!

Sincerely yours,

(SGD.) IRIS Q. MALABARBAS
Researcher

Approved:

(SGD.) MOISES D. LABIAN, JR., PhD, CESO VI
Schools Division Superintendent

APPENDIX F

REQUEST LETTER TO TNE PUBLIC SCHOOLS DISTRICT SUPERVISOR

Samar Colleges, Inc.
Catbalogan City

July 27, 2023

JOSEPHINE E. BACSAL
PSDS
District of Motiong
Schools Division of Samar

Dear Ma'am Bacsal,

Warm greetings!

I am currently taking up Master of Arts in Education major in Educational Management, in Samar Colleges, Inc. Presently, I am conducting a research entitled, **"E-LEARNING APPROACH AND ITS INFLUENCE TO TEACHERS' COMPETENCE AND STUDENTS' ACADEMIC ACHIEVEMENT",** in partial fulfilment of the requirements for the degree for which I am currently enrolled. In this respect, I would like to respectfully request permission from your good office to allow us to conduct this study among the elementary and secondary teachers in your district.

Rest assured that their privacy will be taken care of with utmost confidentiality and their responses will be used for research purposes only. A copy of the final research will be forwarded to your good office for reference.

Thank you very much and more power!

Sincerely yours,

(SGD.) **IRIS Q. MALABARBAS**
Researcher

Approved:

(SGD.) JOSEPHINE E. BACSAL
District Supervisor

APPENDIX G

REQUEST LETTER TO THE SCHOOL ADMINISTRATOR

Samar Colleges, Inc.
Catbalogan City

July 27, 2023

MELVIN J. GABAC
Principal III
Motiong Central Elementary School
District of Motiong
Schools Division of Samar

Dear Sir Gabac,

Warm greetings!

I am currently taking up Master of Arts in Educational Management, in Samar Colleges, Inc. Presently, I am conducting a research entitled, **"E-LEARNING APPROACH AND ITS INFLUENCE TO TEACHERS' COMPETENCE AND STUDENTS' ACADEMIC ACHIEVEMENT",** in partial fulfilment of the requirements for the degree for which I am currently enrolled. In this respect, I would like to respectfully request permission from your good office to allow us to conduct this study among your teachers.

Rest assured that your privacy will be taken care of with utmost confidentiality and that your responses will be used for research purposes only. A copy of the final research will be forwarded to your good office for reference.

Thank you very much and more power!

Sincerely yours,

(SGD.) IRIS Q. MALABARBAS
Researcher

Approved:

(SGD.) MELVIN J. GABAC
Principal III

CURRICULUM VITAE

NAME	:	IRIS Q. MALABARBAS
DATE OF BIRTH	:	September 11, 1988
PLACE OF BIRTH	:	Guinsorongan, Catbalogan, Samar
HOME ADDRESS	:	Brgy. Caranas, Motiong Samar
STATION	:	Caranas Integrated School Brgy. Caranas, Motiong, Samar
PRESENT POSITION	:	Teacher III
CIVIL STATUS	:	Single
CURRICULUM PURSUED	:	Master of Arts in Education (MAEd)
SPECIALIZATION	:	Educational Management

EDUCATIONAL BACKGROUND

ELEMENTARY	:	Guinsorongan Integrated School Catbalogan, Samar 2000 – 2006
SECONDARY	:	Samar National High School Catbalogan, Samar 2006 – 2010
COLLEGE	:	Saint Mary's College of Catbalogan Catbalogan City, Samar 2010 – 2015
GRADUATE STUDIES	:	Samar Colleges, Inc. Catbalogan City, Samar 2017 – Present

ELIGIBILITY

Licensure Examination for Teachers (LET) Rating:76.00%

WORK EXPERIENCE

SUBSTITUTE TEACHER: Bonga Elementary School
Brgy. Bonga, Tarangnan, Samar
June 10, 2017 – December 13, 2017

TEACHER III : Caranas Integrated School
Brgy. Caranas, Motiong, Samar
SEPTEMBER 19, 2018 – Present

SEMINARS/TRAININGS/WORKSHOPS ATTENDED

Microsoft Word 2010, Microsoft Excel 2010, Microsoft PowerPoint 2010. 11-12, May 2015 facilitated by Sain Mary's College of Catbalogan.

NCII Cookery, 1 September- 3 December, 2015 facilitated by Perpetual Help Training Institute Catbalogan City.

3 Day Live Out Training-Workshop on Utilization of Project Roadmap's Lesson Exemplar in Beginning Reading, 21-23 June, 2018 at Jiabong Central Elementary School.

Job Orientation for the Newly Hired Teachers 24-26 September, 2018 at DepEd Samar, Redaja Hall, Catbalogan City.

District Professional Meeting, INSET of Teachers 22-24 October 2018 at Motiong National High School.

School Based Roll-Out (PPST) (RPMS) 12-13 November 2018 at Caranas Motiong, Samar.

Professional Conference and In-Service Training (INSET), 22-24 October 2019, at Motiong National High School.

K-3 8-week Curriculum on Learning Recovery Program (LRP) K-FELT 29 August- 1 September 2023, at Jiabong Elementary School

School Based Feeding Program 25-27 September 2023, at M'Grand Royal Catbalogan, Samar.