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Clarification Evaluation of E-learning Implementation: A Developmental Research Design

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ABSTRACT

E-learning has emerged as an essential component of sustainable education. This study is a clarification evaluation of e-learning implementation at a private higher education institution. This developmental research design was utilized to evaluate the CIPP model using the criteria of the OECD with the data gathered from nine participants. The researcher used a validated interview guide to determine the implementation's context, input, process, and product. In the context of implementation, four themes emerged: efficient compliance with curriculum standards, relevant 21st-century skills, perceived efficiency of teachers and students, and inadequate availability of equipment. Two themes emerged for the inputs: a sustainable learning management system and relevant curriculum content. In the process, four steps emerged: planning, pre-implementation, implementation, and monitoring. Two themes that impacted product outputs emerged: workload reduction for teachers and efficient access and student monitoring. This concluded that a clear, thoughtful, and clever implementation policy can guarantee smoother and more effective services. Additionally, deliberate steps and various actions were taken to ensure the program's successful delivery. The implementation positively impacted on both teachers' and students' output.

INTRODUCTION

Education is an integral factor in sustainable development. Its importance is very high, especially in third-world countries, mainly because of the increasing pressure to be on par with developed and advanced countries. Because of this, the necessity for academic and technical knowledge to teach using technology appeared. E-learning emerged and became a style of assisting in the educational process, and due to this, there is an increasing need for flexible delivery of education. Thanks to recent technological advancements, information and computer technology knowledge are now part of many curricula (Tchamyou *et al.*, 2019). Capinding (2024) revealed that online teaching is efficient and well-received by students. The connection between academic performance, teacher preparedness, student happiness with online learning, and the efficacy of online teaching was also underlined. Overall satisfaction and the rate of autonomous learning were good after students received the teaching delivery methods with e-learning (Saeheng, 2017). Also, it is considered a more effective tool for testing and evaluation than other traditional methods (Zakarneh, 2018).

However, the emergence of the current technologically advanced world has posed numerous difficulties for didactic instruction in conventional classrooms. Both what is to be learned and how learning or knowledge construction should happen require profound reconceptualization, especially in light of the current society's volatile, uncertain, complex, and ambiguous characteristics (Chai & Kong, 2017). Tria (2020), adopting online learning is laden with dangers, impediments, and challenges for both students and teachers, including

poor internet connectivity, a lack of devices, and the disadvantaged. Other problems include a lack of equity, inadequate student protection and welfare, low learning levels, and poor evaluation results. Sakkir *et al.* (2021) added that the majority of students oppose the execution of e-learning for a variety of reasons, including poor signal and network connections, high costs, a lack of effective lecture delivery methods, low student motivation, time constraints, and a lack of interaction.

Notwithstanding the known problems-such as inadequate training, equipment, and experience-teachers' psychological strain and significant digital disparities among the stakeholders-educators advanced their careers by modifying or proposing modifications to educational procedures (Chalkiadakis & Noguera, 2024). Chalkiadaki (2018) highlighted a particular interest in competencies and abilities pertaining to the development of ICT, globalization, and the necessity of innovation in education.

In the Philippines, e-learning is still a rising market. The Philippine government, specifically the Department of Education, is doing its best to bring quality education. Integration of e-learning is one of the goals of K-12 program implementation (DepEd, 2019). In addition, Collado *et al.* (2022) noted that e-learning is not a recent development in the Philippines. The implementation might be weaker than in other nations, and this might be because of a lack of infrastructure, expensive internet access, and a lack of equipment. The nation's need for more information and communication infrastructure serves as further evidence of the country's decades-long underinvestment in e-learning. This lack of expenditure

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could be attributed to a misunderstanding of how technology can be used to optimize results and simplify instructional procedures in various settings.

E-learning has unquestionably cemented its position in the present education system. As e-learning emerges as the new paradigm for modern education globally, creating a better online environment is becoming a significant challenge for many educational institutions (Woldeab & Brothen, 2019).

This study sought to identify variables and factors that influenced the implementation of e-learning. However, the current research focused on performing a clarifying evaluation of the institution's e-learning implementation. The selected institution has specifically implemented e-learning as a platform, with students using it in all subjects to meet the Department of Education's standards and to compete with other institutions in the region and across the country. Specifically, these are the objectives addressed in this study:

1. To determine the contexts of e-learning implementation;
2. To identify inputs provided by the school in e-learning implementation;
3. To discuss the process in e-learning implementation; and
4. To determine the impact of e-learning implementation on the products of teachers and students.

LITERATURE REVIEW

Electronic learning, also known as "e-learning," is a holistic approach to education that expands learning and teaching opportunities in various subject areas beyond the traditional classroom and has gained widespread acceptance in academic institutions and across all fields of education (Rodrigues *et al.*, 2019). E-learning emerged and became a style of assisting in the educational process, and due to this, there is an increasing need for flexible delivery of education (Tchamyou *et al.*, 2019). E-learning challenges traditional approaches to education. Further, it is a student-centered method that teachers and students widely use. E-learning includes automated test marking and results, the ability to export test scores, quickly analyze the data obtained, complete recording of the actual outcomes of evaluation, such as practice assessments and papers presented, as well as online accessibility to both current and stored evaluation result units (Roszak *et al.*, 2021).

Implementing the K-12 curriculum was one of the most significant educational changes in the Philippines. It will bring the basic education system up to international standards by warranting it is suitable, adaptable, and relevant. DepEd (2019) enumerated three essential elements of the K-12 curriculum: fostering holistic development, preparing students for college and the workforce, and developing their 21st-century skills. Information and communication technology is seen as a potent tool and a significant medium for delivering curriculum content. It discusses the instruments and platforms that the department uses to support the

implementation of the curriculum, including the DepEd Computerization Program (DCP), digital learning repositories, teacher ICT training, and information systems that support the provision of basic education. Asio *et al.* (2021) mentioned that internet connectivity and gadgets are essential resources for students' learning. Like any other developing country, the Philippines has already embraced the e-learning platform despite the issues regarding effectiveness and affordability that might limit its potential utilization. The rapid development of ICT in the 21st century forces teachers who work with students at all educational levels to modify their behavior and mindset (Dakhi *et al.*, 2020).

Al Sabah (2020) noted that teachers needed more practice to develop 21st-century skills and that educational policy should support students in developing these skills by updating the curriculum and giving teachers the necessary support, training, and motivation. Teachers should receive more technology training to enhance instruction in this age and support the objectives of e-learning (Pratolo & Solikhati, 2021). These abilities are essential for improving their teaching effectiveness, advancing their professional careers, and successfully preparing students for their future roles in society and the workplace (Mystakidis *et al.*, 2021). Reyes and Gurubel-Tec (2024) emphasized that when integrating technologies, teachers' digital competency—no matter how basic—is considered. Abuhassna *et al.* (2020) argued that administrators should pay more attention to course structure design, and teachers should be trained and skilled. Also, it was added that teachers and students should receive workshops and training to achieve the program's goals quickly.

Tchamyou *et al.* (2019) revealed that many students are not yet prepared with e-learning. Inadequate infrastructure and a lack of resources were two problems that prevented the successful implementation (Qazi *et al.*, 2022). Obstacles to e-learning included a need of computers and laptops, unstable and inadequate internet connectivity, inadequate computer labs, and technical issues (Zalat *et al.*, 2021). Several factors, including poor signal and network connections, high costs, a lack of efficient lecture delivery methods, low student motivation, time restraints, and a lack of interaction, are said to be the main reasons why the majority of students are against the implementation, according to a study (Sakkir *et al.*, 2021). Teachers' inability to provide instructional materials, students' lack of motivation and openness to study, inconsistent and unequally distributed internet connection, and students' challenging financial situations are some challenges of online learning (Nuriddin, 2024).

E-learning effectively enhances critical thinking abilities, which shows changes in students' critical thinking. One of its many advantages is that it allows for teachers and students to work together outside of the classroom and employ cutting-edge techniques and skills (Alharbi & Lally, 2017). Lumagbas *et al.* (2019) highlighted that the foundations of effective use of technology in the educational process include a willingness to use

technological resources, a shared vision among leaders and stakeholders, and an inclusive and adaptable school environment.

According to Peechapol *et al.* (2018), the interaction between the student, teacher, and supplement lecture has positively affected the students' self-efficacy. Students who actively engage with their teacher and peers have higher self-efficacy and satisfaction with online learning. Furthermore, Surjono *et al.* (2019) found that the e-learning activities improved students' learning outcomes. Lin and Chen (2017) found that compared to traditional learning, e-learning shows and presents better learning outcomes. Encarnacion *et al.* (2021) mentioned that teachers generally agreed that e-learning was helpful and positively affected their teaching methods and overall results. They could concentrate more on teaching and tracking each student's progress and reduce tasks such as checking papers and creating video courses.

Notwithstanding the known problems-such as inadequate training, equipment, and experience-teachers' psychological strain and significant digital disparities among the stakeholders-educators advanced their careers by modifying or proposing modifications to educational procedures (Chalkiadakis & Noguera, 2024). E-learning systems must be evaluated for acceptance and use in academic settings if their implementation is to be successful. Organizational considerations like management support, incentives, and user training were made to describe how e-learning systems are used (Ayele & Birhanie, 2018).

MATERIALS AND METHODS

This study utilized qualitative design. Qualitative is focused on getting insights and understanding of respondents' perceptions and interpretations of specific scenarios (Cristobal & Cristobal, 2017). Specifically, a developmental research design was used to determine the contexts and inputs the school provided in implementing e-learning, the processes, and the impact of the implementation on the outputs of teachers and students. In instructional design and development, developmental research seeks to enhance the procedures for developing and assessing educational initiatives. It entails methodical research to guarantee internal consistency and efficacy in instructional design (Richey & Klein, 2014).

The study was conducted in a private institution in Southern Mindanao, Region XI, specifically Davao City. The researcher used nine (9) participants as the maximum sample size in this study to collect qualitative data. The respondents were chosen using a purposive sampling technique. Purposive sampling, refers to a group of sampling techniques that depend on the researcher's judgment when choosing the study's units.

The researcher used an interview guide that focused on the context, input, process, and impact of e-learning implementation on the products of teachers and students. In the data analysis, the participants' responses

were transcribed for analysis. Thematic Content Analysis, specifically Braun and Clarke's six-phase framework, was utilized to familiarize the data, initial coding, search for themes, review themes, define and name themes, and produce the report. This was used to analyze the data by grouping them according to the themes that either evolved directly from the questions or naturally emerged from the gathered data from the respondents (Braun & Clarke, 2006).

RESULTS AND DISCUSSION

Context in the E-Learning Implementation

Based on the results of the descriptions and transcriptions of the participants, four emergent themes surfaced among the thoughts and ideas they shared concerning the contexts of the e-learning implementation. The four emergent themes were: (1) Efficient Compliance with the DepEd K to 12 Curriculum Standards; (2) Relevant 21st Century Skills; (3) Perceived Efficiency of Teachers and Students; and (4) Inadequate Availability of Equipment.

Efficient Compliance with the DepEd K to 12 Curriculum Standards

Most participants in the key informant interview and the focused group discussion agreed that everyone must adjust to the new educational system, which is based on e-learning rather than the traditional classroom setting, to ensure that no one falls behind. Also, the institution efficiently complied with the curriculum standards required by the Department of Education. In the key informant interview, participants 1 and 2 discussed how efficiently the institution complied with the DepEd curriculum's directive to include technology in the curricula and how it was permitted to operate the program.

DepEd (2019) mentioned that one of the salient features of the K to 12 curriculum is nurturing the holistically developed Filipino. One of the things notable in this feature is that graduates are expected to be equipped with information, media, and technological skills. E-learning adoption in education has improved teaching and learning techniques. It enables teachers and students to collaborate and use cutting-edge methods and abilities (Alharbi & Lally, 2017). This is further corroborated by the comments made by key informant interview participants 3 and 5, who discussed how technology is now widely employed in many spheres of life, including education.

The results suggest that administrators, teachers, and students understood and complied with the DepEd's request to incorporate e-learning into the curriculum. This can also be taken to mean that everyone has used e-learning integration as a part of teaching students (DepEd, 2019). Tchamyou *et al.* (2019) claimed that as a result of recent technological advancements, those working in the field of education have begun integrating information and communication technology expertise into their curricula.

Relevance to 21st Century Skills

Participants discussed how e-learning is relevant to teaching students the theory behind it and how to apply it outside the classroom. They discussed how the curriculum emphasizes 21st-century competencies. The participants also discussed the relationship between e-learning and the growth of digital literacy among teachers and students.

The program strongly emphasizes communication skills, life and career skills, and learning and innovation skills (DepEd, 2019). Digital literacy abilities are required for both students and teachers to participate in online learning. It implies that to fully and effectively utilize e-learning, teachers and students must be digitally literate. Reyes and Gurubel-Tec (2024) stressed that instructors' digital competency must be considered when integrating technologies. Therefore, teachers should have more technology training to improve instruction in this age and support the implementation (Pratolo & Solikhati, 2021). Al Sabah (2020) noted teachers claimed that they still needed more practice to develop 21st-century skills. Educational policy should support students in developing these skills by updating the curriculum and giving them the necessary support, training, and motivation.

As shared by Participant 4 from the key informant interview, e-learning should be taught so that students can use it even after they finish their studies. Participants 6 and 7 from the focused group discussion and the key informant interview contributed their thoughts on how e-learning improved their digital skills. Additionally, it encouraged students to think critically and display a favorable attitude toward online learning.

As evidenced by the responses, it is crucial to stress that participants think the application of e-learning enhances digital literacy skills. Today, being digitally literate will give students many opportunities, and it is essential to integrate lifelong learning with e-learning. The ability for teachers and students to collaborate outside of the classroom and utilize cutting-edge techniques and skills is one of the many advantages of e-learning (Alharbi & Lally, 2017). E-learning is considered a more effective tool for testing and evaluation than other traditional methods (Zakarneh, 2018).

Perceived Efficiency of Teachers and Students

Participants offered their perspectives on the difficulties that impacted teacher and student acceptance of the implementation. Participant 1 expressed her feelings regarding the revised school roadmap. However, administrators must embrace the change so teachers can do the same. The best method for managing change in an e-learning environment is to train and influence users to improve their digital literacy and gradually shift their attitudes in the right direction (Parlakkiliç, 2017). The rapid development of information and communication technology in the twenty-first century forces teachers working with students at all educational levels to modify their behavior and mindset (Dakhi *et al.*, 2020). Findings show favorable opinions and experiences with

the internet, particularly in regard to resources, quality, usability, and potential efficacy (Kim & Saldana, 2023).

In contrast to the traditional technique, which does not require as much preparation in terms of the use of technology, participants 3 and 4 discussed how crucial it is for a teacher to be well-equipped with the necessary equipment needed for the teaching-learning process. Teachers should be more receptive to these changes and help students acquire the required learning objectives and competencies because their success in implementation largely depends on them. To guarantee the success of their implementation, e-learning systems must be evaluated for acceptance and use in educational settings (Ayele & Birhanie, 2018).

In the focused group discussion, participants 7 and 9 also shared their sentiments on the usage of e-learning. Since this is the first time, they have used it and they have never used it in a school before. Lack of interest of students in learning online seemed to be the difficult problem that until now is unanswered. The inability of students to learn productively leaves a change in their achievement. This led them to encounter failing grades and being left behind from the class.

Low student motivation and a lack of interaction are two of the main reasons why most students oppose the implementation (Sakkir *et al.*, 2021). Stakeholders are accustomed to traditional pedagogy, and research in educational administration and management constantly reports that many e-learning projects need to meet their goals for various reasons. Still, the main one is user resistance to change following the digital requirements of the new era (Parlakkiliç, 2017).

Inadequate Availability of Equipment

Concerning efficiency, the lack of adequate equipment for participation in e-learning is the final theme derived from the responses in the context of e-learning implementation. Participants 1 and 2 in the key informant interview discussed students' difficulties as they go to e-learning classes. Zalat *et al.* (2021) found that the main obstacles to e-learning were insufficient computer labs and a need for computers and laptops among students and teachers. This only suggests that technology tools are necessary to execute an e-learning program.

Also, Participants 3 and 5 in the key informant interview shared the same ideas about the insufficient and lack of gadgets among students. Lack of resources and inadequate infrastructure were two issues that hindered the success of e-learning implementation (Qazi *et al.*, 2022). The problems that students have are essential to the implementation strategy, such as not all students having the necessary equipment to take part in an online course. A study by Lukas and Yunus (2021) found that teachers faced various challenges, such as readiness to adopt it, accessibility to mobile devices, and internet connectivity, which impacted how effective e-learning could be. Some of the issues of online learning were lecturers' inability to provide instructional materials, students' lack

of motivation and openness to study, inconsistent and unequally distributed internet connection, and students' challenging financial situations (Nuriddin, 2024). Collado *et al.* (2022) also raised the possibility that there may be less implementation in the Philippines, which a lack of equipment and infrastructure and pricey internet access may cause.

Inputs Provided by the School in the E-Learning Implementation

Based on the results of descriptions and transcriptions of the participants, two emergent themes surfaced among the thoughts and ideas they shared during the key informant interview and focus group discussion. The emergent themes were (1) Sustainable Learning Management System and (2) Relevant Curriculum Content.

Sustainable Learning Management System

Participants 1 and 2 discussed their experiences using the introduced e-learning platform successfully using the learning resource that was made available. Participants stated that implementing e-learning is cost-effective because it is less expensive than hardbound books. Furthermore, because of its digital features, the Quipper's content can be used indefinitely and updated regularly, making it sustainable.

Fostering the holistic development of Filipinos, preparing students for college and the workforce, and developing 21st-century skills are three of the six critical components of the K–12 curriculum (DepEd, 2019). This feature's emphasis on graduates having information, media, and technological skills is one of its standout aspects. Along with communication skills, life and career skills, learning and innovation skills are also emphasized in this program. Participants 3 and 4 also added and shared their experiences using the introduced e-learning platform successfully using the learning resource that was made available. Based on the responses, it can be further deduced that Quipper's use as a learning management system for the program has progressed the institution's curriculum. Teachers and students can use a range of Quipper's content during synchronous and asynchronous sessions. Additionally, it aided in achieving the learning competencies that the DepEd had laid forth. DepEd (2019) views information and communication technology as a powerful tool and an essential medium for disseminating curriculum material. The DepEd Computerization Program (DCP), digital learning repositories, teacher ICT training, and information systems that support the delivery of basic education are just a few of the tools and platforms that are covered in this article. Students' access to the internet and the availability of learning tools, connectivity to the internet, and gadgets are crucial resources for students' learning (Asio *et al.*, 2021).

Relevant Curriculum Content

Participants stated that the institution's implementation of e-learning made efforts to contextualize the curriculum's

content while adhering to the requirements established by the DepEd. The curriculum is being followed by the teachers, who have contextualized it in a way that redefines how to offer instruction in a learner-centered e-learning environment without sacrificing the development of students' critical and analytical thinking skills. Teachers must participate in professional development to follow the curriculum and support the adoption of e-learning. It is crucial to offer sufficient training because implementing e-learning with teachers who lack the necessary skills will be very challenging and may result in issues with application use (Mystakidis *et al.*, 2021).

The Basic Education-Learning Continuity Plan (BE-LCP), created by DepEd in 2020, provides continuity in implementing the K–12 curriculum, particularly in terms of matching learning resources with program requirements. Incorporating online learning within the DepEd's curriculum is one of the objectives of the K–12 programs being implemented in the Philippines.

Process in the E-Learning Implementation Planning

In this step, administrators, as well as supervisors, coordinators, and faculties, conducted consultations. This is to talk about how the school is moving toward globalization. One of them is the full integration of an e-learning platform into the curriculum, as it is a new system in the area and one of the salient goals of the K–12 curriculum. DepEd (2019) views information and communication technology as a powerful tool and an essential medium for disseminating curriculum material. Some of the salient elements of this program included cutting the number of school days from five to four per week, scheduling both in-person and online classes and activities, and lightening instructor workloads.

Planning was evaluated in terms of its relevance. Its purpose was relevant to the DepEd standards of integrating e-learning into the curricula. The Basic Education-Learning Continuity Plan (BE-LCP), developed by DepEd in 2020, ensures continuity in K-12 curriculum implementation, particularly in matching learning resources with program requirements, such as online training. Curriculum and Instruction ensures that institutions focus their efforts on providing a basic education curriculum that is relevant, adaptable, and successful.

Pre-Implementation

Pilot testing was done with selected sections and teachers over a semester to fully understand and conceptualize how the program would be administered, including the delivery of the courses, the administration of assessments, and student consultations. Following the pilot testing, teachers' and students' opinions were obtained. The e-learning platform's use, according to both, simplified their tasks. Teachers said that they no longer need to do so because the platform can already review many papers after evaluation. Students further noted that they can

access study guides, PowerPoint presentations, and video lectures using their smartphones or computers rather than carrying around four or five books daily. They further stated that they could access the assignments provided by their teachers at any time and from any place.

The study's findings revealed that overall satisfaction and the rate of autonomous learning were reasonable after students received their teaching delivery methods through e-learning (Saeheng, 2017). The study identified essential learning skills like independent learning, flexibility in learning, and interactive learning (Mutambik, 2018).

Pre-implementation was evaluated about the efficiency criterion. It was noted that the administration continued the initiative and began training all instructors in various seminars and workshops connected to technology integration. Students attended a webinar workshop on how to use the e-learning platform in addition to teachers. The administrators installed LCD projectors, white screens, and wireless fidelity to deliver the curriculum efficiently. In order to ensure the quality of implementation, Bana *et al.* (2022) proposed that a strategic plan be created to ensure that administrators, teachers, and students are prepared, particularly with regard to the availability of ICT devices, digital technology skills, and the availability of online learning support. Asare *et al.* (2023) found that in order to successfully integrate technology, it is necessary to stress the significance of thorough planning, pedagogical considerations, and continuing support.

Implementation

Regardless of section or strand, all teachers and students began using the platform in this phase. Before the scheduled courses, teachers provide the students with study materials like power points and videos. Students will have the opportunity to read more challenging material and be better prepared for class.

E-learning features automated test marking and result, exporting test scores and enable quick data analysis, and full archiving of all evaluation results, including practice tests (self-tests) and papers submitted as project work or group work during the course or as a credit requirement; and online access to current and archived evaluation results units (Roszak *et al.*, 2021).

Implementation was evaluated using efficiency as a criterion. Since available learning tools are easily accessible, the class was more interesting because the students efficiently familiarized themselves with the subjects or lessons that would be covered. Following the teacher's lesson discussion, the students were given an assessment, which was also made available on the same e-learning platform. Teachers can generate their grades as soon as students have finished the evaluation. The students may do the same after taking the test to review their results.

Monitoring

In this step, a quarterly usage report of teachers and students was generated to monitor whether the teachers

are utilizing the platform by looking at the number of lessons and assessments they provide every week for the quarter. Also, it reports on how well the students respond to the tasks. Moreover, a yearly satisfaction survey was conducted to check whether they still prefer to utilize the Quipper platform and if it helps them do their academic-related tasks. The platform's analytics makes it easier to monitor teachers and students.

Monitoring was assessed using the impact criterion. It was discovered that their assignments, worksheets, and activities were positively impacted. Teachers and students could use the Quipper effectively, allowing them to track their progress easily. The interaction between the student, teacher, and supplement lecture has positively affected the students' academic self-efficacy and satisfaction with online learning (Peechapol *et al.*, 2018). Surjono *et al.* (2019) discovered that e-learning activities improved students' learning outcomes. Binoy (2024) added that the delivery of lectures and the facilitation of in-class activities through the use of technology, such as online platforms and collaborative tools, may enhance student engagement and critical thinking.

Impact of E-Learning Implementation on the Product Outputs

Based on the results of descriptions and transcriptions of the participants, two emergent themes surfaced among the thoughts and ideas shared during the key informant interview and focus group discussion. The emergent themes were (1) Workload Reduction of Teachers and (2) Efficient Access and Monitoring of Students.

Workload Reduction of Teachers

Participants 1 and 2 discussed their insights into how e-learning deployment affected their final products. Participants 3 and 4 also discussed their insights into how using Quipper made their job easier. Incorporating e-learning into the teaching process helps reduce the teachers' duties. Since the e-learning platform can generate it as soon as students take the relevant assessment, they do not need to go through the bulk of the exam papers. Study materials, PowerPoint slides, and video presentations were also available on the portal. The aforementioned LMS is the institution's first significant step toward the high-tech educational path it wants for its stakeholders. Because tests are administered online, it eradicates teachers' burden in checking.

Automated test marking, information about the result, and archived evaluation results are just some benefits of computer-based evaluation providers (Roszak *et al.*, 2021). Encarnacion *et al.* (2021) revealed that teachers generally agreed that e-learning was practical and beneficial to their teaching methods and overall results. They can concentrate more on teaching and tracking each student's task progress. According to Bornaa *et al.* (2023), teachers should utilize the modern, technologically advanced world to combine traditional in-person instruction with e-learning to improve and expedite teaching and learning.

Efficient Access and Monitoring of Students

Most participants agreed that using e-learning in the classroom had made things more accessible and more comfortable. This is because students can access the learning materials whenever it is convenient for them. A study on the impact and effectiveness of e-learning showed the students' high degree of agreement on its efficacy. Moreover, most of the participants felt a positive impact on their learning styles and their outputs as a whole (Encarnacion *et al.*, 2021). According to Afroz (2023), online learning boosts time efficiency and provides comfortable, hassle-free access to course materials from any location. Participants also added their ideas and experiences on how Quipper helped access and monitor the students' progress. The results show that students are also aware of the benefits of online learning. The outcomes also demonstrated that perceived usefulness rather than enjoyment mediated learners' readiness for and acceptance of e-learning (Rafiee & Abbasian-Naghnah, 2021).

The themes and ideas covered in this study arose from the integrated environment and could serve as an excellent foundation for developing and enhancing contemporary educational pedagogies. The institution can develop and implement well-thought-out strategies that will likely boost the mutual advantages to its stakeholders by improving the services of e-learning. Implementing Quipper as a learning management system is the institution's first significant step toward the globalization of education through high technology. For the teachers, the fact that assessments are done online eliminates their problem in checking. Through the lens of the administration, the analytics provided by the system will help monitor and facilitate their teachers conveniently.

E-learning is still in its infancy in the institution; thus, many developments can be anticipated in the coming years. One of the viable formats that may be used in conjunction with problem-based and authentic learning in the process is the customization and individualization of training for academic education. Administrators and educators must be prepared to address these changes and use these innovations to teach future students the most effective and efficient methods to meet the demands of this VUCA world.

CONCLUSION

The contexts of e-learning implementation revealed that program learning goals, program learning objectives, and identifying implementation challenges are critical in planning and strategizing the use of e-learning. A clear, well-thought-out, and smart policy about the implementation can ensure a smoother and more efficient service. The implementation inputs include introducing a well-developed learning management system and contextualized curriculum content set by the DepEd, ensuring that everything in there is relevant and will lead to the program's successful delivery.

Furthermore, the e-learning implementation process revealed that the institution carefully planned the program before it was fully implemented. Well-thought-out steps and different actions were taken to prepare teachers and students. The e-learning implementation positively impacted both teachers' and students' output as it reduced teachers' workload in assessments and preparation for class and helped students efficiently and quickly access materials and monitor their progress.

Thus, the implementation was relevant because it addressed the needs and developments in the Philippines' educational system. It is also efficient since using Quipper has allowed them to reduce teachers' workload, easily access students' data, and track their progress. Because e-learning platforms are less expensive than hardbound books, they are more cost-effective. The implementation had an impact on both teachers and students. It made it easier for them to access and monitor progress. Finally, the cost-effectiveness of e-learning ensures its sustainability.

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