Revolutionizing Education: A Study on AI Integration in Teaching Practices at Good Samaritan Colleges Senior High School

Calvin Lloyd B. Ador Dionisio[1], Mark Christian F. Aguirre[1], Ma. Angelica S. Carpio[1], Ailene Q. Supian[1], Joefil C. Jocson[2]

[1]Student, Master of Engineering Management, Graduate School, Nueva Ecija University of Science and Technology (NEUST), Cabanatuan City, Nueva Ecija, Philippines
[2]Professor, Master of Engineering Management, Graduate School, Nueva Ecija University of Science and Technology (NEUST), Cabanatuan City, Nueva Ecija, Philippines
Corresponding Author: cbadordionisio@gmail.com

Abstract— Artificial intelligence is increasingly being recognized as a major force in the high-tech industry, revolutionizing various aspects of our society and improving the overall quality of life. Artificial intelligence empowers educators to enhance the learning environment, tailor teaching methods to meet the unique needs of each student, and automate various jobs. This case study examines the use of artificial intelligence in the form of an adaptive learning platform called "EdApp" to serve as a learning management system. The researchers employed SHS teachers as responders to determine how "EdApp" can empower them in creating courses or subjects for their lessons. The researchers employed a survey methodology to collect data, which was then analyzed using statistical techniques and the scoring interpretation provided by Nurali & Suziyani. Microsoft Excel was utilized for this analysis. Based on the findings, conclusions were drawn regarding the respondents' perceptions of the impact of integrating artificial intelligence into the learning platform, specifically in terms of convenience, reliability, and satisfaction. The case study emphasizes that the respondents unanimously acknowledged the advantages of incorporating artificial intelligence in various areas, including the creation of teaching materials and the evaluation of students.

Index Terms— **Artificial Intelligence, Learning Management System, Adaptive Learning Platform.**

1. Introduction

Teachers play important roles in the society, especially in the learning system of a student, such as helping individuals others to acquire knowledge, competencies and values. Teacher is a designation for the office, position, and profession in the field of education through patterned educational interaction, formal and systematic.

Nowadays, the use of artificial intelligence is rampant, especially among the students of our generation today. The growth of technology impacts the learning system of a student as well as the education system of a teacher.

What if teachers use artificial intelligence as their method of teaching? Can artificial intelligence lead to an effective method of teaching? Some schools and universities practicing the use of Learning Management System (LMS) which helps in both teachers and students in several ways.

The purpose of the study is to examine teachers' perceptions of how artificial intelligence affects the Good Samaritan Colleges (GSC) Senior High School Teachers by using LMS on their teaching method, particularly a learning platform which named as "EdApp".

The general aim of the study is to determine the different perception of senior high school teachers how artificial intelligence affects the Good Samaritan Colleges (GSC) Senior High School Teachers by using LMS on their teaching method, and specifically, aims to answer the following questions: (1) The demographic profile of the senior high school teachers: gender, age, and number of years in profession. This study also aims to determine the effects of adapting artificial intelligence (AI) as learning management system (LMS), both advantages and disadvantages in terms of the following factors: (a) convenience, (b) reliability, and (c) satisfaction. And lastly, it provides the implication of the study. The following questions which may answer by the respondents with their experiences after integrating the artificial intelligence (AI) through the use of the learning platform, EdApp.

This study will be beneficial to the following entities; community, government, students, other researchers, and other researchers. This study is about the effects of adapting artificial intelligence as learning management system for senior high school teachers. Twenty-eight (28) respondents, which consist only of senior high school teachers, will be conducted in Good Samaritan Colleges in Cabanatuan City, Nueva Ecija.

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Adapting artificial intelligence (AI) in learning management systems (LMS) is a rapidly developing area, with numerous studies investigating the potential benefits and challenges. The integration of artificial intelligence (AI) into learning management systems (LMS) has attracted a lot of attention in recent years due to its potential to revolutionize the education sector. AI-powered LMSs can personalize learning experiences, provide adaptive feedback and improve student outcomes. However, the integration of AI into LMS also poses challenges in terms of privacy, algorithmic bias and ethical considerations. This paper reviews the relevant literature on the integration of AI in LMS and highlights its benefits, challenges and future directions.

Many researchers have discussed the integration of AI into LMS to improve learning outcomes. For example, Wang and Woo (2017) have shown how AI can personalize learning materials and assessments in LMS, leading to better student engagement and performance. AI in LMS enables personalized learning paths for students based on their skills and learning styles. Klašnja-Milićević et al. (2017) discussed how AI algorithms can analyze student data to recommend appropriate learning resources and activities.

AI-powered LMS can provide adaptive feedback to students and guide them through the learning process. Xu and Du (2020) emphasized the importance of adaptive feedback for improving student learning outcomes. AI algorithms in LMS can analyze student data to predict future performance and identify students at risk of failing. Klašnja-Milićević et al. (2017) discussed the potential of predictive analytics in improving student retention rates.

Despite the benefits, there are challenges and ethical considerations associated with the use of AI in LMS. Sclater (2019) discusses the challenges of data privacy, algorithmic bias and the need for transparent decision-making processes. It is important to address these challenges and ethical considerations to ensure the responsible use of AI in education.

Researchers have also explored future directions for integrating AI into LMSs. Wang and Woo (2017) proposed the use of AI chatbots in LMS to support and help students in real time. These innovative applications of AI in LMS are very promising for improving educational outcomes.

Learning management systems (LMS) have transformed the way educators deliver instruction and students engage with course materials. This paper reviews the literature on LMS, focusing on their evolution, features, benefits, and challenges.

LMS offer several benefits to both educators and students. For educators, LMS streamline course management tasks, such as grading and communication with students. For students, LMS provide access to course materials anytime, anywhere, and facilitate collaboration with peers.

Studies have shown that LMS are effective in promoting blended and online learning. For example, Smith et al. (2017) found that students in blended learning environments using LMS performed better than those in traditional classrooms. Additionally, Johnson and Lee (2018) reported increased student engagement and satisfaction with LMS.

Despite their benefits, LMS also pose challenges. One challenge is the learning curve associated with adopting new technologies, which can be daunting for some educators. Additionally, ensuring the accessibility and usability of LMS for all students, including those with disabilities, can be challenging.

The future of LMS is likely to focus on further personalizing learning experiences for students. This could involve the use of artificial intelligence (AI) to analyze student data and provide personalized recommendations for learning materials. Additionally, the integration of virtual and augmented reality (VR/AR) technologies into LMS could create more immersive learning experiences.

EdApp is a mobile learning management system (LMS) that offers a range of features to enhance the learning experience. This article reviews the literature on the use of EdApp in education, focusing on the effectiveness of the system in improving learner engagement and knowledge retention.

EdApp offers several features that make it an effective tool for learning. The platform is designed for mobile devices, so learners can access it anytime, anywhere. It also offers game features such as quizzes and badges to increase learner engagement. In addition, EdApp offers personalized learning paths based on learner performance, ensuring that each learner receives content tailored to their needs.

Studies have shown that EdApp improves learner engagement and knowledge retention. For example, Smith et al. (2018) found that students using EdApp performed better on quizzes than those using traditional learning methods. In addition, Jones and Brown (2019) reported higher learner satisfaction and motivation when using EdApp.

Despite its advantages, EdApp also has some challenges and limitations. One challenge is the need for a stable internet connection, as the platform relies on online access. Also, some learners may have difficulties with self-directed learning on EdApp and need additional support from teachers.

The use of EdApp in education is likely to continue to grow, with future developments focusing on improving the effectiveness and usability of the platform. Future research could explore the use of artificial intelligence (AI) to further personalize learning on EdApp, as well as the integration of virtual and augmented reality (VR/AR) technologies to create more immersive learning experiences.

2. Methodology

A. Study Design

This study employs a case study design because it is relevant in collecting rich data and information about the effectiveness of adapting Artificial Intelligence (AI) to the preparation of learning materials, delivery of discussion of lessons, and generating assessment/evaluation materials for the students of the Senior High School teachers from Good Samaritan Colleges for the school year 2024-2025.

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Since the introduction of Artificial Intelligence to the tech industry, it has now made its way into the education sector, transforming the way students learn and how teachers teach. (SNAD Developers, 2023). Therefore, in this study, in order to examine the effectiveness of adapting Artificial Intelligence (AI) and the challenges it presents to teachers' way of teaching, a survey questionnaire has been utilized.

This study gathered information from articles, other research papers, and others materials which is related in this study. The researchers have deliberately chosen these resources to provide different views on the difficulties and advantages of remote project management collaboration in the age of technology. A five-point Likert scale questionnaire were provided to the respondents to gather data. The questionairre consists of three (3) aspects that can affect the effectiveness of adapting Artificial Intelligence (AI) using EdApp as a medium: a) its convenience to the teachers, b) the reliability of lessons being generated, and (c) the satisfaction of teachers in adapting Artificial Intelligence (AI) through EdApp in their way of teaching.

A total of 28 teachers, aged 22 to 37, from a single secondary school in Cabanatuan City, Nueva Ecija, Philippines were selected using the convenience sampling technique. This is because this study is not aimed at testing a research hypothesis to be generalized to the population but to develop an understanding of teachers' perceptions about the effectiveness of adapting Artificial Intelligence (AI) through EdAPP, and the challenges related to it. In this study, from a total of 28 SHS teachers, 18 respondents were female, and 10 were male. All of the respondents were teaching full time and was introduced into Artificial Intelligence (AI) by using the application named EdApp.

After merging the gathered data, the researchers arrived with an informed conclusions which made the case study's end successful.

B. Data Analysis

The responses from the survey were analysed by calculating the percentage and frequency using Microsoft Excel software. Since this study identified frequency and percentage for each item in the questionnaire, the interpretation of these findings was based on Nurul and Suziyani's (2018) suggestion for percentage score interpretation. As presented in Table 1, if an item achieved a percentage score between 0% and 49%, the level of agreement on the item statement was considered as low. Based on the standard norm, a 50% score is considered a mean score, while a score of 75% or above is considered to be within the highest quartile (Azriah et al., 2019).

Table 1
Interpretation of percentage scores

Percentage Score	Score Interpretation
75% to 100 %	High
54% to 74%	Moderate
0% to 49%	Low

Source: Nurul and Suziyani (2018)

3. Results And Discussion

In this section, all data gathered was discussed to address the questions associated with this case study.

Of all 28 respondents, their demographics were found to be 64.29% (n=18) female, and 35.71% (n=10) male. In terms of their ages, 42.86% (n=12) were aged 22-24, 50.00% (n=14) were aged 25-27, 7.14% (n-2) were aged 33-37. Furthermore, the researchers aimed to distinguish the respondents' number of years being in service as a professional and it was found that 14.29% (n=4) have 5-6 years' experience, and 85.71% (n=24) have 3 years and below.

SHS TEACHER'S PERCEPTIONS ABOUT THE CONVENIENCE PROVIDED BY THE ARTIFICIAL INTELLIGENCE (AI) THROUGH "EDAPP"

After the analysis of the summary of SHS Teachers' responses on the convenience of preparing presentation materials by adapting AI through "EdApp", it was found that 78.57% (n=22) respondents agreed (agree and strongly agree) that AI through "EdApp" provides convenience in preparing presentation materials in terms of time. In preparing presentation materials in terms of place, it was found that 82.14% (n=23) respondents agreed highly.

In terms of the preparation of presentation material in terms of lesson content, 78.57% (n=22) of respondents agreed that AI provides convenience through "EdApp". During the discussion of the SHS teachers in their classes, 75.00% (n=21) of them agreed with the convenience provided by AI. But on the preparation/evaluation exams generated by AI through "EdApp", 71.43% (N=20) of the respondents' level of agreement was moderate.

SHS TEACHER'S PERCEPTIONS ABOUT THE RELIABILITY OF THE ARTIFICIAL INTELLIGENCE (AI) THROUGH "EDAPP"

In summary of the responses of the SHS Teachers in terms of the reliability of the lesson content when adapting AI through "EdApp", it was found that 82.14% (n=23) respondents agreed that the lesson content generated by AI through "EdApp" is reliable. The respondents agreed that the lesson content generated by AI through "EdApp" is aligned with the K-12 curriculum (85.71%, n=24). For the assessment/evaluation being generated by the AI, 86.71% (n=24) of the respondents agreed highly.

The lesson content generated by AI includes photos, which help the respondents properly discuss their lessons, 85.71% (n=24) of them agreed that the photos included are reliable. But in terms of the completeness of the lesson, the lesson content generated by AI was found to be moderately reliable by 67.86% (n=19) of the respondents.

SHS TEACHER'S SATISFACTION IN ADAPTING ARTIFICIAL INTELLIGENCE (AI) THROUGH "EDAPP"

After conducting survey, the researchers came up with a summary of the responses of the 28 SHS teachers in line with their satisfaction with adapting AI through "EdApp", in which they found that iIn adapting AI as Learning Management

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System (LMS), 78.57% (n=22) of the respondents agreed highly. It was also found that 78.57% (n=22) of the respondents agreed that they were satisfied with adapting AI during the preparation of presentation materials in terms of time and place. Additionally, 85.71% (n=24) of the respondents were satisfied with the lesson content generated by AI through "EdApp". But lastly, 71.43% (n=20) were satisfied in a moderate way when it came to the completeness of the lesson content generated by the AI.

It was discovered that the respondents strongly agreed to use artificial intelligence (AI) as a learning management system (LMS) through "EdApp" into their classroom activities, as the summary of SHS Teachers' comments indicates in each table.

The respondents' opinions of the convenience that artificial intelligence (AI) could offer them are displayed in Table 2. The respondents wholeheartedly concurred that artificial intelligence (AI) makes everything easier, from creating presentation materials to administering tests to students for assessment and evaluation.

An article from View Sonic discussed one of the benefits of AI in preparation of teachers on their classes. The process of planning lessons can be time-consuming and frustrating, especially if it needs to occur outside of normal working hours. Lessons will typically need to be carefully planned so that they cover all of the necessary content, are age-appropriate, and are in keeping with the wider curriculum.

This is another key area where artificial intelligence is starting to show real promise. In many cases, some of the more repetitive or predictable tasks associated with lesson planning can be automated, which can make the process of planning lessons easier and more efficient. On top of this, AI can play a role in optimizing the actual quality of lesson plans. (View Sonic, 2022).

It was also stated in an article of The Times of India that in education, the convenience of artificial intelligence ensures custom-made study materials depending on a student's needs. The educational software in artificial intelligence is capable of making adaptive learning technology, games, and programs for students that enhance the process of knowledge acquisition (TOI - Online, Dec. 2022).

For the respondents' perceptions about the reliability of the Artificial Intelligence (AI) through "EdApp", Table 3 shows that the respondents highly agreed that the lesson content being generated using AI as an LMS was reliable and could be used as material for their class discussion.

SHS respondents in this study showed their satisfaction with adapting AI as an LMS through "EdApp" after their survey method data gathering.

A. Addressing the challenges

While the study has highlighted some of its good things, it is necessary to discuss the problems encountered while implementing artificial intelligence (AI) through "EdApp" and other similar platforms in schools. For instance, language barrier was one of the obstacles respondents encountered when studying in Filipino. Teachers were not able to mix AI-driven content with Filipino language because instructions generated by algorithmic courses were mostly in English. This obstacle, therefore, necessitates that multilingual AI tools be created to enable teachers to seamlessly incorporate technology into various linguistic contexts. It would thus be important for AI-backed learning programs to address this issue so as to make them more accessible and inclusive to all types of learners across different educational settings globally. In order for this problem to be solved, it should go beyond just explaining how an AI works in a normal classroom; more specifically, the course should target the incorporation of fancy new technologies that are useful even when you are not trying to get a job because they make life easier and more fun. Such an approach would help ensure that all students and teachers have equal access, regardless of their countries' wealth levels or language variations.

4. Conclusion

In conclusion, incorporating AI and "EdApp" as an LMS, offers immense advantages in various aspects of the educational process. Such as helping high school teachers while preparing learning materials organizing for classroom debates and making assessments for students. It is this study that shows how convenient, dependable and highly satisfactory AI use can be for educators who make up their minds to go by it during teaching. Educators can simplify their processes, enhance the quality of instructional content and improve student learning outcomes by exploiting AI's capabilities.

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