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LEARNING MANAGEMENT SYSTEM IMPLEMENTATION TO PROVIDE VIRTUAL SYSTEM FOR STUDENTS AND STAFF OF TUTOR HOUSE INC.

A system presented to the faculty
of Department of Computing and Informatics

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CHAPTER 1

INTRODUCTION

This chapter consists of an introduction, the project's background, theoretical and conceptual frameworks, statement of the problems, objectives of the study, significance of the study, scope and limitations, and the definitions of key terms employed throughout the study.

As the current learning approaches evolve since the height of the pandemic, numerous methodologies and systems have been made to improve the distribution further and maintain the quality of education delivered to the learners. From the adaptive distance learning and blended learning approaches, several developers made a new platform for every institution to utilize.

The client's current system is still based on the traditional way of handling learners' records, utilizing several platforms to do a single task like performing analysis on student's grades on Excel, handing out assignments orally or with a hard-bound/copy, and keeping the student's personal records on a tangible thing. By making a virtual learning management system for Tutor House Inc., the implementation of a learning management system would enhance the traditional way of managing the learners' records. A learning management system is vital for every institution nowadays, even for big or small schools. It helps the administrators of any school to utilize the technological approach to managing records, handing out school work, and even learners' academic growth assessment remarks. Even though it might sound technical, making a user-friendly and easy-to-access user interface will make it easier for future Tutor House Inc. users to use the system.



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Project Context

As the world's technological advancements are rapidly improving, the means of virtualizing any system of any sector in society, even in business or whatever professional organization or company is now the standard to increase work efficiency, and to automate any traditional way of settling things. From automated banking, to virtual payment mechanisms, these are some of the advancements that humans are currently enjoying. Imagine the long lines in a department store or grocery on a Friday payday. With the help of virtual shops, people can buy whatever they want without going to the store where they shop. Modernization in every sector can make a big difference in daily human lives, and as we slowly travel through future, the current advancements that humans have may be different from what will be the future of systems.

Meanwhile, about education, especially in the Philippine setting, some institutions are still working on a traditional way of disseminating information. Most of them do still write student records on a paper, having a huge pile of paper works in their own tables. By means of adapting to technological advancements, virtualization can eliminate these issues by implementing automated systems. Also, to mention that the world has challenged by a circumstance not so long ago, all institutions, schools, and offices shifted their system to online platforms.

The implementation of a learning management system, either big or small school, or even just a tutor house, can create a new experience to learners especially to young students who are fond of mobile gadgets. Systems like LMS can make a difference to their current learning approaches as they continue to learn, even at home, in front of their phones, tablets or laptops.

THEORETICAL FRAMEWORK



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This study is anchored to Rogers' theory of diffusion of innovation (1962), which states a complete approach on how humans are adopting to any new wave of things, either invented or discovered in nature by innovators that will bring a new way of seeing things for humans, or also called adopters. [1] To expand the idea of the theory and align it to innovate the traditional way of learning to online learning system, there are five (5) subcategories which acts as influencers on adapting to innovations, namely, relative advantage, compatibility, complexity, triability, and observability. These factors have their own impacts on how humans adapt to changes especially with their conventional way of doing things, before innovation.

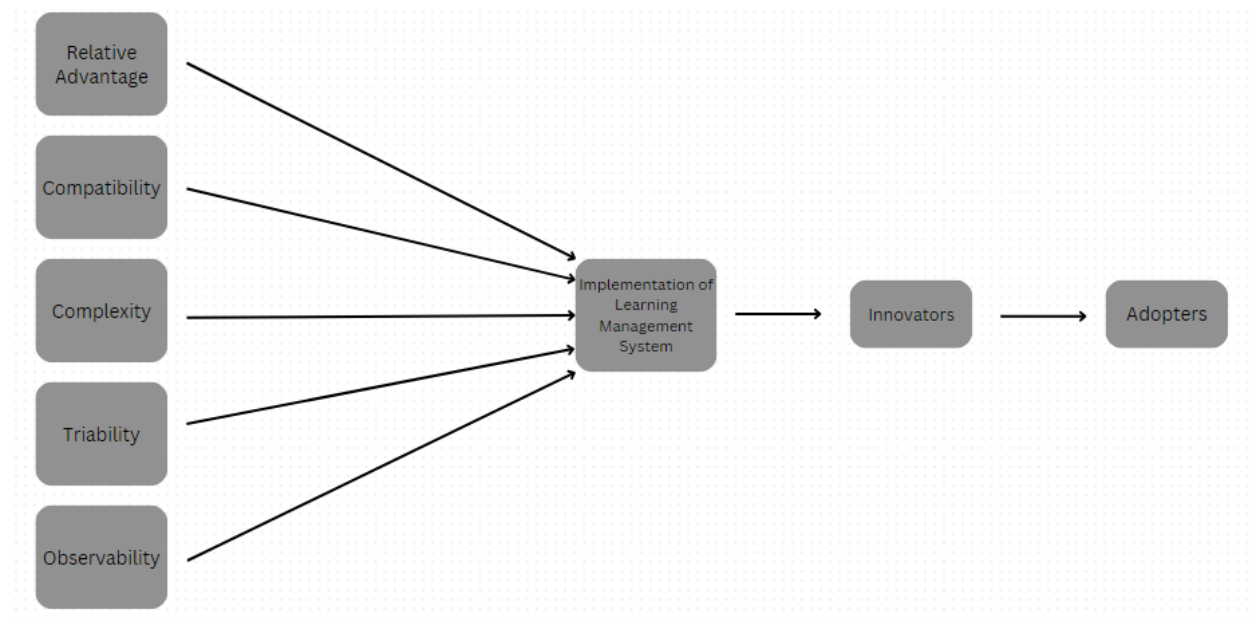


Figure 1.1. Diffusion of Innovation model

Following the model in implementation of Learning management system for Tutor House Inc., there will be a comprehensive framework that can formulate the process on how the specific learning management system would be provided for the institution mentioned above. This concept



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can assess specific goals and targets that the organization wants to acquire. Specifically talking about the concept map, these five factors has their own specific role on creating a Learning management system. The relative advantage will be the anchor of the system that will provide an efficient way of disseminating learning materials, virtual records system, and a distance-learning method that will help the tutors and students to interact while distanced. Compatibility lies on how the system is relative to the past systems that the institution uses. Complexity, as one of the most important factors, shows how the system can be used by less computer literate people. If the system is not user-friendly, especially to people who are not fond of technological advances, then the adoption might not be effective. Triability is when the system can be utilized in order to get feedback from potential users. And lastly, Observability, as the most important factor, which will indicate how effective the implementation of Learning Management System is for Tutor House Inc.

In conclusion, the theoretical framework' Diffusion of Innovation can be aligned to the implementation of a Learning Management System for Tutor House Inc. because it plays an integral part on how the future users will interact to this new way of learning approach.

CONCEPTUAL FRAMEWORK

The overview of the system provides a comprehensive summary on how the system functions. Below is a guide of the step-by-step process on how the system be utilized.



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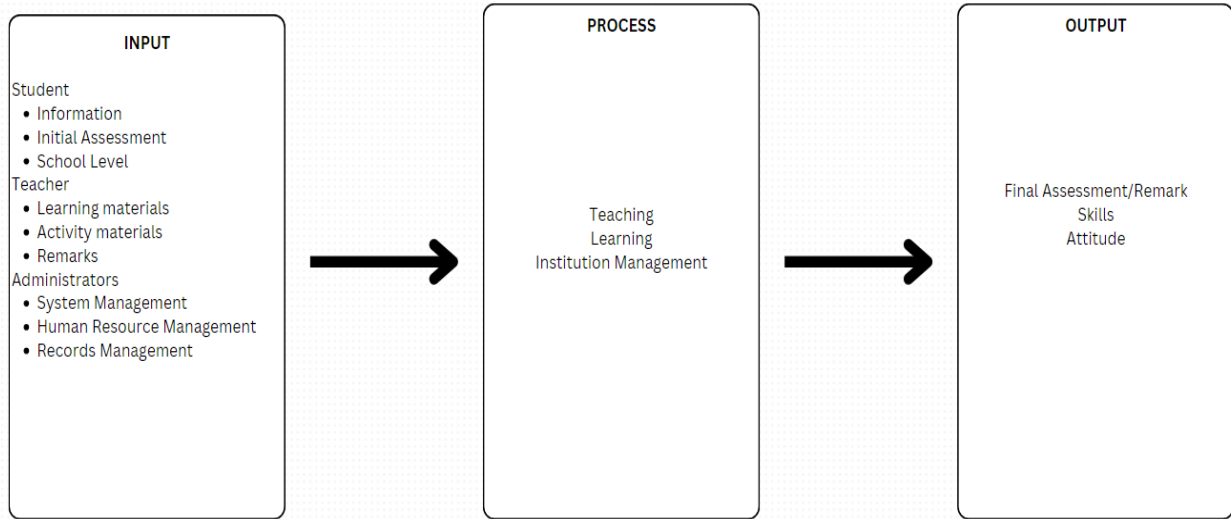


Figure 1.2: The Conceptual Framework of the Study

The conceptual framework of the study is based on Input, Process and Output (IPO). The initial phase, which is the input, gathers all information necessary for the enrollee or student, which will be handled by administrator, as well as the tutors. Aside from student's information, an initial assessment will be also done, this will be the basis for teachers to map the necessary adjustments to address the lacking skills and knowledge of a student on a certain subject. Also, the school level, which will also the basis of learning difficulty. For teachers, the input phase is done by uploading learning and activity materials for the student, as well as giving remarks to each one of it, to test if there's an ongoing learning on the student. Lastly, for the administrators, their input will be based on how they will manage the system, as well as their position to input all the necessary information and announcements. On the other hand, for the process, is mainly teaching and learning, both for student and teacher. Lastly, the output, will be the final remarks for student if he/she improved their own knowledge on the subject they took tutoring.



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STATEMENT OF THE PROBLEM

The main purpose of this study is to provide the developers' client their own virtual learning system that is web-based, in order to virtualize the traditional way of learning that the client has. To suffice the lack of technology-based system and other issues that the client has, the developers intended to create a web-based platform for them to adapt to the current learning standards, as well as to shift to the blended learning approaches that a lot of institutions are currently offering. Specifically, the research deems to answer the following questions:

1. How can the developers conceptualize and create a virtual management system for Tutor House Inc., especially for its students, staffs and administrators?
2. How the new web-based platform will adapt to the new learning approaches which will shift the students from traditional tutoring mechanisms to virtual methodologies?
3. In what way the developers will assess the effectiveness of implementing a web-based learning management system in improving the work efficiency, especially the learning practices of staff and administrators of Tutor House Inc.?

OBJECTIVES OF THE STUDY

This study intends to develop a new management system for schools like Tutor House Inc. and scrap the traditional way of processing the student's records, remarks, and learning approaches to improve the quality of education further. To further provide a better view of the objectives, below are the much more comprehensive goals that the developers are looking for:



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1. To develop a virtual learning management system for Tutor House Inc. for its student, staff, and administrators.
2. To give them a new learning methodology/approach that will give students a new and better learning experience while adapting to a blended learning approach.
3. To assess the effectiveness of a learning management system in improving the work efficiency of staff and administrators of Tutor House Inc. based on how they will utilize the system.

SIGNIFICANCE OF THE STUDY

This study is conducted to benefit the following parties:

To the students – To introduce them to a new learning platform that will ease the process and make the learning experience more efficient and effective. The students can use the system by uploading answering materials, taking quizzes, and viewing announcements.

To the Learning House – They can use the system to blend into the new wave of learning mechanisms nowadays. As we progress with the technological advances that we have today, adaptation to virtual learning platforms will lead to better dissemination of learning materials, digital attendance sheets, and online student record systems.

To the researchers – This study will help the researchers involved in developing and improving their programming skills and grow their knowledge of how systems are developed and implemented, which can be vital for their growth as they progress.



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To the future researchers – This study might help future researchers as their guide as they might want to make or improve the system that made up this study.

SCOPE AND LIMITATIONS

Scope

Learning Management System for Tutor House Inc. provides ample functionalities to cater the enlisteeds of Tutor House Inc. as their second institution to pursue learning and to further improve their scholastic performances in their primary schools. First, it is an online platform, web-based learning management system that can be used anywhere they want, as long as there is an internet connectivity. It allows the students, as well as teachers and administrators to access their own accounts with different permissions. For students, they can log-in to check if there's a learning material uploaded for them by the teacher, as well as activities and assessments. Also, if announced, the student can check their progress reports and remarks to see if there's an improvement in their learning. For teachers, as mentioned above, they can upload lessons, activities, and any other learning materials for their students. As well as to give remarks to the uploaded answer sheets of the learners. Administrators have the maximum security access, giving them permission to check all of the progresses of students, as well as to check the learning materials that the tutors' are uploading.

Limitations

In contrary to the scope that offers an extensive functionality to the users involved in the Tutor House LMS, there are also limitations present in the system. First, there is no notification



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page that can notify the student every time they log-in that there is already an uploaded lesson/activity by the teacher, because of this, the student must check each page whether there is a newly uploaded material for them to download. Next, there is no messaging board or system that can be used as a communication tool by students and teachers. The developers thought that the issue within the time frame until its presentation that they cannot fulfill this feature, also to consider that there's a lot of social media applications that the school, (including teacher), and student or their parent/guardian can use to communicate. Lastly, there is no attendance system feature that can check the attendance of students. The researchers decided to drop the idea of attendance function because the institution of the client is not a formal school, but rather a Tutorial school, which only meets if scheduled.

DEFINITION OF TERMS

Blended Learning. A way of learning that combines traditional classroom lessons with lessons that use computer technology and may be given over the internet. (Cambridge Dictionary, 2023)

Distance Learning. A way of studying in which you do not attend a school, college, or university but study from where you live, usually being taught and given work to do over the Internet. (Cambridge Dictionary, 2023)

Learning Management System (LMS). As defined by Kirvan & Bursh (2023), A Learning Management System (LMS) is a software application or web-based technology used to plan, implement and assess a specific learning process. It's used for e-learning practices and, in its



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most common form, consists of two elements: a server that performs the base functionality and a user interface (UI) that instructors, students, and administrators operate. (Kirvan & Bursh, 2023)

Pandemic. An outbreak of a disease that occurs over a wide geographic area (such as multiple countries or continents) and typically affects a significant proportion of the population: a pandemic outbreak of a disease. (Merriam-Webster Dictionary, 2023)

Tutor House. As used in a study, a tutor house is a place of tutoring program, wherein incoming or ongoing grade school students improve their skills in a subject such as Mathematics, Science, and English by completing worksheets of increasing difficulty, led by a special instructor.

Virtual System. A virtual system (VSYS) is a virtualization technology that divides a physical device into multiple independent logical devices. Each virtual system functions as a real device with its own resources and runs its own services, which an administrator can independently configure and manage. (IP Encyclopedia, 2023)

CHAPTER 2

REVIEW OF RELATED LITERATURE



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Presented in this chapter is the summary of related studies and professional literature which had a significant relevance to the study. This review will provide significant information which the researchers, with helpful resources and essential background, may undertake and enrich this research. The following are the foreign review of related studies:

According to the book *Uses of Technology in Primary and Secondary Mathematics Education*, the use of technology in mathematics education, which encompasses the use of both classical and digital technologies, has a long and broadly discussed tradition. The potential impact of technology on what and how students learn (e.g. Fey et al. in *Computing and mathematics*. The impact on secondary school curricula. National Council of Teachers of Mathematics, Reston, VA, 1984) is an issue which has existed for decades and there is now a growing corpus of studies which provide insight into the role of technology in mathematics education (see for example, Blume and Heid in *Research on technology and the teaching and learning of mathematics: volume 2 cases and perspectives*. IAP, Charlotte, NC, 2008; Drivers et al. in *Uses of technology in lower secondary mathematics education: a concise topical survey*. Springer, Cham, 2016; Heid and Blume in *Research on technology and the teaching and learning of mathematics: volume 1 research syntheses*. IAP, Charlotte, NC, 2008; Hoyles and Lagrange in *Mathematics education and technology-rethinking the terrain*. Springer, New York/Berlin, 2010; Moyer-Packenham in *International perspectives on teaching and learning mathematics with virtual manipulatives*. Springer International Publishing, Switzerland, 2016). Consideration of the impact of technology on the teaching and learning of mathematics has been the topic of considerable research and



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continues to be of interest as researchers investigate the potential of technology-enabled mathematics education. For these reasons, it is not surprising that technology use was the focus of three Topic Study Groups (TSGs 41, 42 and 43) at the 13th International Congress on Mathematical Education (ICME), held in Hamburg in 2016. [2]

According to the study titled “Benefits of Learning Management System (LMS) in Indian Education”, In today's world, schools are trying to find the right mix of students, teachers, protocols, and systems to run their learning programs. Learning management systems (LMS) are becoming a way to handle course registration, manage course content, evaluate students through assignments, quizzes, and exams, and make sure that the administration, evaluation, and report-making processes of an institute run smoothly. In general, LMS/E-Learning is a way to learn with the help of technology, such as the Internet and interactive-based learning, instead of the old ways. This makes learning possible across a wide range and more efficiently. In India, Technical Education Institutions (TEI) depend on classroom teaching to cover their curriculum. A lot of work goes into managing, storing, and reusing course materials so that the same course can be taught again next semester. This system will be a central place for students and teachers to talk to each other outside of the classroom. It will also help students, teachers, and college management deal with problems that come up every day. In the LMS process, teachers can upload course materials like lecture notes, e-books, homework, quizzes, and mid-semester tests, which students can then access with their login information. Here, we look at the different parts of the LMS and how they help students do better in school than with traditional methods. Since there aren't many survey reports in the literature that talk about the benefits of LMS in the Indian education system, we



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looked to surveys done overseas in the form of literature reports to get a better idea of what LMS has done for students in the past. The most important enterprise system for teaching and learning is also the LMS. [3]

As also stated in the study titled “Blended learning via Schoology as a learning management system in reading class: benefits and challenges”, Blended learning, which is when online learning and face-to-face learning are used together, is thought to be more useful than either online learning or face-to-face learning alone. When Schoology is used as a Learning Management System in blended learning, it can help teachers keep track of information about their classes. Schoology lets teachers and students share information and gives access to certain courses' content or administrative features. Even though the benefits of blended learning through Schoology have been talked about, EFL teachers still don't want to use it in their reading classes. This literature review looks at several papers that look at the pros and cons of using Schoology as a Learning Management System for blended learning. The goal of the study is to look at the pros and cons of using Schoology for blended learning. The information was gathered from both first-hand and second-hand sources. It is hoped that the results will encourage EFL teachers to use blended learning through Schoology in their classes and draw their attention to the challenges of blended learning through Schoology, which will help students learn better. [4]

According to the study titled “Empirical Study on Electronic Learning System: Benefits, Challenges and Prospects”, Because digital technology is growing so quickly, people are using new technologies in all of their work. Over the years, the number of people who use smartphones has grown quickly. Because of this, many developed countries now use online learning to bring



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education to everyone, no matter where they live. In the same way, the COVID-19 outbreak is making a lot of developing countries adopt the electronic learning system as a way to teach and learn. So, the e-learning system can be used to make online sessions with useful information, extra lessons for students, webinars, e-mentoring, and online conferences. This paper uses an empirical method to evaluate the pros and cons of the e-learning system. A survey was given to students at a higher education institution in Nigeria and at different online researchers' forums around the world to find out what problems students are likely to have with the e-learning system. Four hundred ninety-five (495) responses were collected, and descriptive statistics were used to look at the data. The results of the survey show that 33.94% of students were unhappy with their internet connection, which is also a big problem in most developing countries. Only 7.27% of respondents were unhappy with how much feedback they got. It is recommended that there be a standard IT infrastructure, strong internet connectivity, and an easy-to-use e-learning platform. This will improve performance and lead to more work being done. [5]

According to the study titled "Development of Ubiquitous Learning Environment Based on Moodle Learning Management System", Open learning has been accelerated by digitalization, education reform, and rapid resource growth. Electronic and mobile learning can alienate students from the real world, make it hard for them to focus on learning goals, let them waste time on entertainment, and increase their cognitive load. Ubiquitous learning, a continuation of electronic and mobile learning, offers more than just the latest educational ideas or methods. It can accommodate students and their learning styles by providing adequate information anytime and anywhere based on their characteristics, needs, and desire to improve academic performance and



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productivity. This study develops the ubiquitous learning environment, including the ubiquitous learning portal built with Moodle LMS and the ubiquitous learning course in Instructional Media. 2) test the ubiquitous learning environment. The R&D for Education model was used for analysis, design, development, and evaluation. All stages of creating a portal and ubiquitous learning course in the Instructional Media course have been completed. [6]

The following are the foreign review of related literatures:

According to an article titled “Learners' Needs in Online Learning Environments and Third Generation Learning Management Systems (LMS 3.0)” Web-based Learning Management Systems let students interact with content, assessments, and instructors. LMSs have been popular since the information age. This study examined learners' expectations and needs, one of the LMSs' most important stakeholders. The researchers used an open-ended questionnaire and a semi-structured interview form. Content analysis examined open-ended questions and interview data. According to the findings, learners want more entertaining and self-monitoring environments, especially with gamification. Learning environments report and predict student achievement. Third-generation LMSs meet learners' needs. Educational data mining and learning analytics can create third-generation LMSs. This research examined third-generation learning management systems, intervention, and learner expectations and needs. [7]

According to an article titled “Students' Use of Learning Management Systems and Desired E-Learning Experiences: Are They Ready for Next Generation Digital Learning Environments?”, Despite upgrades, students use LMS administrative functions more than learning applications. Students' readiness to use next-generation digital learning environments that support user



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accessibility through content creation and curation, integrated systems interoperability, personalised adaptive learning, collaborative learning, and analytics-driven performance management must be considered as learning management systems evolve. This study surveys 262 Fine Arts majors to determine how they use learning management systems and if their desired e-learning experiences match next-generation digital learning environments. Student-centered e-learning, content curation, private group management, and mobile interoperability are desired by students who frequently use learning management systems for content learning and discussion. Students' current experiences influence their desire to use e-learning systems. Infrastructure upgrades and faculty preparation are needed to create student-centered digital learning experiences. These findings affect higher education institutions implementing next-generation digital learning environments. [8]

According to an article titled "The Case Study on the Effectiveness of Online Learning Management System to Impart the Knowledge of Advance Course", The classroom is no longer the only place where people can learn. Online learning management systems like Moodle make it easy for teachers to set up an online presence, make courses, and keep track of them all. At the same time, these ways of learning allow students to get into the course at any time. A MOODLE course called "Advanced Search Engine Optimization" was made so that online learning management systems could be used. The course is made up of different tasks that the learner has to do. During the course, the level of engagement and performance of each learner was tracked and analyzed. [8]



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According to an article titled “Personalized Learning Utilizing a Learning Management System in a Middle School”, The goal of this mixed-method study is to find out what teachers and parents think about students in personalized learning classes that use a learning management system (LMS). Teacher and parent interactions and experiences with students over the course of a school year are used to figure out how students see themselves. The study uses the TPACK framework, which stands for Technology Pedagogy and Content Knowledge. It also includes personalized, self-paced, and small group learning. The researcher made the tool, which has 20 Likert-style questions, optional questions about demographics, and an open-ended response for participants to share thoughts, concerns, and successes that weren't asked before in the survey. This study looked at two things. One analysis was to see how teacher answers compared to parent answers, and the other was to see how well the instrument worked on its own. [9]

According to an article titled “The Acceptance of Learning Management Systems and Video Conferencing Technologies: Lessons Learned from COVID-19”, During the outbreak of the Coronavirus (COVID-19) pandemic, higher education institutions (HEIs) have shifted from traditional and blended learning approaches to a fully virtual course delivery. This research investigates the students' perceptions on remote learning through asynchronous learning management systems (LMS) and via synchronous video conferencing technologies like Google Meet, Microsoft Teams or Zoom, among others. The data was gathered from a sample of 501 higher education students in a Southern European context. A survey questionnaire included measures that investigated the participants' acceptance of interactive technology to better understand their utilitarian motivations to use them. The findings suggest that the research



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participants accessed asynchronous content and interacted with online users, including with their course instructor, in real time. While there are a number of theoretical or opinion papers on the impact of COVID-19 on higher education services, currently, there are still a few empirical papers that shed light on the factors that are having an effect on the students' attitudes and intentions to utilize remote learning technologies. This contribution underlines the importance of maintaining ongoing, interactive engagement with students, and of providing them with appropriate facilitating conditions, to continue improving their learning journey. [10]

The following are the local review of related studies

The Education Sector in the Philippines has been successful by integrating E-Learning (Online Learning) LMS with Schools, Colleges, and Universities. This is because traditional education and learning methods had changed and clashed with school schedules when the Covid-19 Pandemic hit the world in 2020-2021. One thing that made E-Learning and virtual class development methods work better during these uncertain times was that most educational institutions took advantage of useful online and classroom innovations to start over and make the necessary changes. It's also true that many different businesses did well, and educational institutions got E-Learning tools that made learning through the internet even more exciting. There are virtual steps of LMS and online class lead classes, as well as openness to E-Learning LMS and AI-powered controlling devices that companies use to help their employees learn in a systematic way. E-Learning courses and a number of different Learning Management Systems (LMS) are now available to both parents and students. These systems help students improve their e-learning



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skills. Because of these important changes in e-learning and other business-related and processed arrangements, LMS has been used for proper training in places like schools and colleges. Instructors and Facilitators used successful LMS that was combined with their E-Learning modules and recordings as reference materials, with the combination of innovation continuing to computer and other labs online. (Lee, 2023) [11]

In the study titled “Amidst the Online Learning Modality: The Usage of Learning Management System (LMS) and Its Relationship to the Academic Performance of the Filipino Students” in 2021, Today's technology-driven society and academic institutions use Information and Communication Technologies (ICTs), learning management systems (LMS), and mixed learning methods to help students do better in school and learn more. So, this study looks into the link between 188 Filipino students' use of a learning management system and how well they do in school. Based on the Pearson association coefficient, there was no link between the students' use of LMS and how well they did in school. [12]

According to the study “The Use of Learning Management Systems in ESP to Explore Postgraduate Students' Content Knowledge about Epidemiology and COVID-19: A Mixed-Methods Study” This sequential explanatory mixed-methods study looked at how an online English as a Second Language (ESL) course affected postgraduate students' understanding of epidemiology and COVID-19. The course was called "English for Pandemics" and was taught using a system called Edmodo. Informally, Needs Analysis was used to find out what the participants' needs, tastes, and wants were so that the treatment could be shaped around them. A quasi-experimental design (a one-group, pre- and post-test design) was used by the researcher.



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Before the treatment, each person was given a test. The treatment was to do eight units of English for Pandemics online, using Edmodo to deliver, receive, master, and test the material. After 8 weeks, the people who took part in the study were tested again.

The quantitative results showed that the subjects' knowledge about epidemiology and COVID-19 was statistically different. Qualitative results showed that users liked the interactive features of Edmodo (simplicity, functionality, control, community learning, and real-time feedback) a lot and were ready to use Edmodo in the future. [13]

As stated in a study in 2020, as schools have closed, early childhood education has changed. Most of the children learn online to stop the disease from spreading, especially when they can't learn face-to-face. Parents and teachers play important parts in helping kids get smarter and get along better with others. But putting home learning into practice is hard because it's hard for very young children to control themselves, not all kids are ready to use digital technology and learning materials, parents have different ideas about online learning compared to traditional learning, and parents need to have a lot of time and knowledge to help their kids. During the spread, it is important for parents and teachers to talk to each other well to help young children learn online. [14]

This study looks at the most important things that affect how children respond to a non-traditional learning platform, especially self-learning modules (SLMs), which are used by public schools in the Philippines to teach service-learning. Our goal is to find out how well access to the internet, food security in the home, and parental participation can predict how interested students will be in these modular classes during the health crisis. Based on the answers (n=359) of 359



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parents of public school students to our online survey, our regression analysis shows that our model works $F(3,355) = 19.2, p0.001$. We found that food security and parental participation are good predictors of how much students enjoy their SLMs, but access to the internet is not. So, our model shows that children whose parents spend time helping them with their schoolwork and who live in homes with enough food are more likely to do well in their modular classes, whether or not their homes have internet access. (Rodriguez et al., 2023) [15]

The following are the local review of related literature

COVID-19 has caused problems in education around the world. As a result, there has been a big shift from learning in person to learning online, which affects students, teachers, and parents. The goal of the descriptive-correlational research was to describe, investigate, and explain how online learning affects students' attitudes, time management, and technostress, as well as how these things affect how well elementary students do in school. One of the elementary schools in Camiguin Province was where the study was done. The research used one survey questionnaire with four parts: profile, attitude, time management, and technostress. Google forms were used to gather the information, and the link was sent through Facebook messenger. Statistics that describe (counts, percentages, and means) were used to describe the respondents' attitudes, academic performance, time management, and technostress. On the other hand, the T-test and Analysis of Variance (ANOVA) were used to answer inferential questions about differences. Pearson-R correlation was used to test relationships. (Ramirez, 2022) [16]

Research on intelligent tutoring systems (ITS) is not a new field. Even though it's good for teaching, not many ITS are made for Filipino learners. Since there wasn't much ITS research done



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in the Philippines, it wasn't taken into account that Filipino learners might need a different way to learn. This chapter talked about where research on ITS is in the Philippines. The readers would learn that there is a need for cross-disciplinary studies about Filipino learners that could be used to create ITS that fits their culture. It also talked about the culture of Filipino learners and will try to use these descriptions as design considerations when making ITS. Lastly, it showed how to make an ITS for Filipino learners by giving ideas and directions. (Bringula, 2020) [17]

Using technology to learn, like with Electronic learning, has become an important part of the education field. Taking into account all the work that has been done to learn more about how people learn shows that all the models of self-regulated learning that have been recognized and thought about need to be looked at again. Because of this, we can talk about a full analysis and focus on new features of well-known SRL models from the literature from 2015 to 2022. This is what this paper is about. A systematic review of the literature was done on six SRL models based on the factors that make these models good for E-learning. It was found that cognitive and metacognitive activities work together in all SRL models, and that their characteristics, processes, and parts are all the same. Now, all six of the SRL models we've looked at can be used in an e-learning environment. But SRL models, with the help of digital technologies, might make learning in the Philippines better for the students. (Lopez et al., 2022) [18]

This chapter is all about the basic education policies and programs that are being used in the Philippines. It talks about what will be taught, how it will be taught, and how quality will be made sure. This is part of the K to 12 reform effort that was put into place in 2012 when Kindergarten and Senior High School were added to the basic education program in the



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Philippines. There are also talks about different parts of program implementation, like how teachers can improve their skills, how governance and leadership work, and how technology can help. The chapter ends with a look at a few changes that could happen in basic education because of global trends and national plans for development. (Ocampo & Buenviaje, 2021) [19]

People often study the amount of work teachers have to do. But despite all the books and articles and calls to action, this is still one of the biggest problems in education. So, the goal of this paper is to learn more about the policies by collecting and analyzing the effects of the workload policy and the working hours of public school teachers. The goal is to get a clear picture of how these policies are affecting the field right now. In particular, its (1) effectiveness, (2) efficiency, (3) economy, (4) fairness, and (5) impact. The researcher's goal isn't to make broad statements about how teachers think, how good they are at their jobs, or how well they do their jobs. Instead, he or she wants to review and analyze the most common issues and concerns that can be seen in the existing literature and studies. Systematic Review and Meta-Analysis (SR/MA) was used to look at the effects of public school teachers' workload policies and work hours. Policies, books, and studies on teachers' workloads, which were chosen through a process called "purposive sampling," are the main sources of data. To do a qualitative analysis of the data, a deductive method based on thematic analysis was used. The results showed that teachers' overall effectiveness and efficiency are affected by how much work they have. Also, these problems need to be solved quickly so that the government can get more money to improve access to and quality of education, which is very important for the Philippines' economy. Based on the results of this analysis, the following strategies and actions are suggested: policymakers should do a full review and analysis



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of the policy; workloads should be cut; the data management system should be improved; the staffing system should be improved; more non-teaching staff should be hired; quality teacher mentoring programs should be set up through professional learning communities (PLCs); and other government programs should be improved. (Tarraya, 2023) [20]

SYNTHESIS

Learning Management System (LMS) is indeed beneficial for Tutor House Inc. as it enhances the traditional way of managing the learners' records. The significance of LMS in modern education, their numerous benefits, acknowledges and highlights possible directions for future developments is proved by the provided related literature and studies. By understanding the perspectives from existing research, educators and policymakers can make informed decisions regarding the integration and optimization of Learning Management Systems in their educational institutions.

CHAPTER III

RESEARCH METHODOLOGY

This chapter describes the research methodology, such as the techniques used to obtain research aimed to find in the study. It covers the Research Design, Research Locale, Population of the Study, Sampling Design, Data Gathering Tool and Procedure, Technical Background,



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Algorithm Design and Techniques, Software Development, Methodology and Implementation Plan.

RESEARCH DESIGN

The study uses both qualitative and quantitative research in a mixed-methods methodology. This approach was selected to record a thorough account of the LMS deployment procedure, its results, and the experiences of both students and staff.

A quasi-experimental methodology is used in the quantitative component to assess how the LMS affects staff productivity, student engagement, and academic success. Data before and after the LMS's implementation can be compared thanks to this architecture. Survey questions will be used to collect quantitative information on staff productivity as well as academic performance and involvement of students before and after implementation.

In order to comprehend the lived experiences and views of students and staff towards the LMS, a phenomenology study is part of the research's qualitative component. Focus groups and semi-structured interviews will be used to gather data. To investigate the experiences and viewpoints of students and staff, semi-structured interviews and focus groups will be held. Prior to the actual data collection, the interview guide and focus group discussion guide will be produced depending on the research objectives.



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RESEARCH LOCALE

The research was conducted in various residential areas in different cities to assess the effectiveness of the Learning Management System (LMS) designed for home tutor kids. The study involved participants from diverse socio-economic backgrounds to ensure a representative sample. The research locales included urban, suburban, and rural areas, allowing for a comprehensive evaluation of the LMS in various educational settings. Home tutoring sessions were conducted in the homes of the participating children, providing an authentic and comfortable learning environment. The selection of multiple locales aimed to gauge the LMS's adaptability and potential impact on children's learning outcomes across different contexts.

POPULATION OF THE STUDY

The study encompasses the following key participants in the home tutoring program facilitated by the Learning Management System (LMS) for pre-school and elementary students in Canlubang, Calamba, Laguna.

Teachers:

These educators, who can be professional tutors, parents, or caregivers, are responsible for implementing the home tutoring program using the LMS. They will engage with the pre-school students, deliver educational content, and assess their progress.



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Tutee and Parents

The primary beneficiaries of the study are pre-school and elementary students aged 5 to 11 years. These young learners receive personalized home tutoring using the LMS to enhance their early to pre-high school education.

Administrators:

This group includes owner, coordinators or organizers responsible for overseeing the implementation and management of the home tutoring program. They ensure the smooth functioning of the LMS and provide necessary support to teachers and parents.

SAMPLING DESIGN

In the case of our study, the population of interest would be:

- Students enrolled at Tutor House Inc.
- Staff members at Tutor House Inc. including teachers and administrators.

A stratified sampling strategy would be most suited given the diversity of the target population. A simple random sample is taken from each stratum once the population is divided into homogenous subgroups, or "strata," as part of stratified sampling.

The following categories can be used to categorize the population:

- Additional grouping of students based on grade levels.



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- Teachers: Based on the subjects they taught or the grade levels they guide, teachers might be classified into smaller divisions.
- Administrators: Sub-groups may consist of the principle, the employees of the registrar, the financial department, etc.

The final participants can then be chosen within each stratum using a straightforward random sampling technique after the subgroups have been defined. This can be done by giving each member of the stratum a special identification number, and then choosing the desired sample using a random number generator. All Tutor House Inc. employees, parents, and students may meet the inclusion criteria. To make sure that participants have enough experience with the Learning Management System to offer helpful input, exclusion criteria could include individuals who have less than a semester's worth of experience.

DATA ANALYSIS PLAN

Let's discuss how to calculate grades for the home tutoring learning management system. The grade calculation typically involves determining a student's overall performance based on various assessments and activities throughout the course. Here's a possible approach for grade calculation:



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Grade Calculation Method:

- Assignments and Homework: Assign weights to different assignments and homework. For example, you can allocate 30% to assignments and 20% to homework.
- Quizzes and Tests: Determine the weightage of quizzes and tests in the overall grade. For instance, quizzes can be assigned 15% weight and tests 25%.
- Participation and Attendance: Include a participation and attendance component, if relevant. This can account for 10% of the overall grade.
- Project or Final Exam: If applicable, assign a weight to the final project or exam. It could be 20% of the total grade.

Grading Scale:

- Next, establish a grading scale to convert raw scores into letter grades or numerical grades.

A commonly used grading scale is as follows:

A: 90 - 100 (or 4.0 for GPA)

B: 80 - 89 (or 3.0 - 3.9 for GPA)

C: 70 - 79 (or 2.0 - 2.9 for GPA)

D: 60 - 69 (or 1.0 - 1.9 for GPA)



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F: Below 60 (or 0.0 for GPA)

DATA GATHERING TOOLS

Surveys and questionnaires: These tools are excellent at gathering quantitative information. Efficiency can be greatly improved by utilizing online survey tool like Google Forms. Multiple-choice, open-ended, and Likert scale items, among others, can be included in questionnaires to allow for a wide range of responses.

Interviews: One-on-one, customized interviews provide deep insights into people's thoughts and experiences. These can be carried out through a variety of channels, offering flexibility and convenience. These include conventional face-to-face settings, phone calls, and video conferencing systems like Zoom and Microsoft Teams.

Focus Group Discussions (FGDs): Using a method analogous to interviews, FGDs elicit detailed information from a group in order to comprehend their common perspective. When it's important to understand the consensus of a certain group, this strategy excels.

Document analysis: The institution's own data and documents that are already available can be a goldmine of knowledge. These resources, which offer a rich context and historical backdrop, may include past study reports, system implementation reports, user feedback, and pertinent email threads.

Observations: This approach is especially useful for understanding user-system interactions in undisturbed, natural environments. Observations enable the collection of data in real-time, which frequently exposes actual user behavior.



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Usage Statistics: If such features are offered, the Learning Management System (LMS) itself may serve as a key data source. These systems may produce crucial metrics on usage trends, frequently used functions, and error reports, which can be used as a benchmark for system effectiveness and user satisfaction.

DATA GATHERING PROCEDURES

Defining the Scope: The first and most important stage is to clearly define the main topics and features that will be the subject of the data collection. These could include factors like user satisfaction, success in achieving learning objectives, usability, implementation difficulties, and more.

Designing Tools: The next stage is to create data collection tools after the scope is determined. This include creating pertinent survey or interview questions, developing the important discussion points for focus groups, or identifying the crucial metrics from usage statistics, all in accordance with the specified scope.

Sampling: Choose the sample for data gathering now. This may include a variety of groups, including administrators, staff, and students. Depending on the needs for the research that can be chosen. Depending on the nature of the study, various sampling techniques may be used, including convenience, random, and stratified sampling.

Pilot Test: The tools are put through a test run before the data gathering is started. This is done to make sure they can understand them and get the information they need. On the basis of the comments received, edit and refine.



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Data Collection: Actual data gathering is done during this step utilizing the tools you carefully created. Sending out surveys, planning and conducting focus groups or interviews, and compiling relevant data and metrics may all be necessary to do this.

Data Analysis: The collected data must be methodically examined using the appropriate procedures after collection. For instance, statistical analysis may be necessary for quantitative data whereas theme analysis may be necessary for qualitative data.

Data Interpretation and Reporting: In the research paper, the researchers must interpret the studied data, make inferences, and present the findings.

SOFTWARE DEVELOPMENT METHODOLOGY

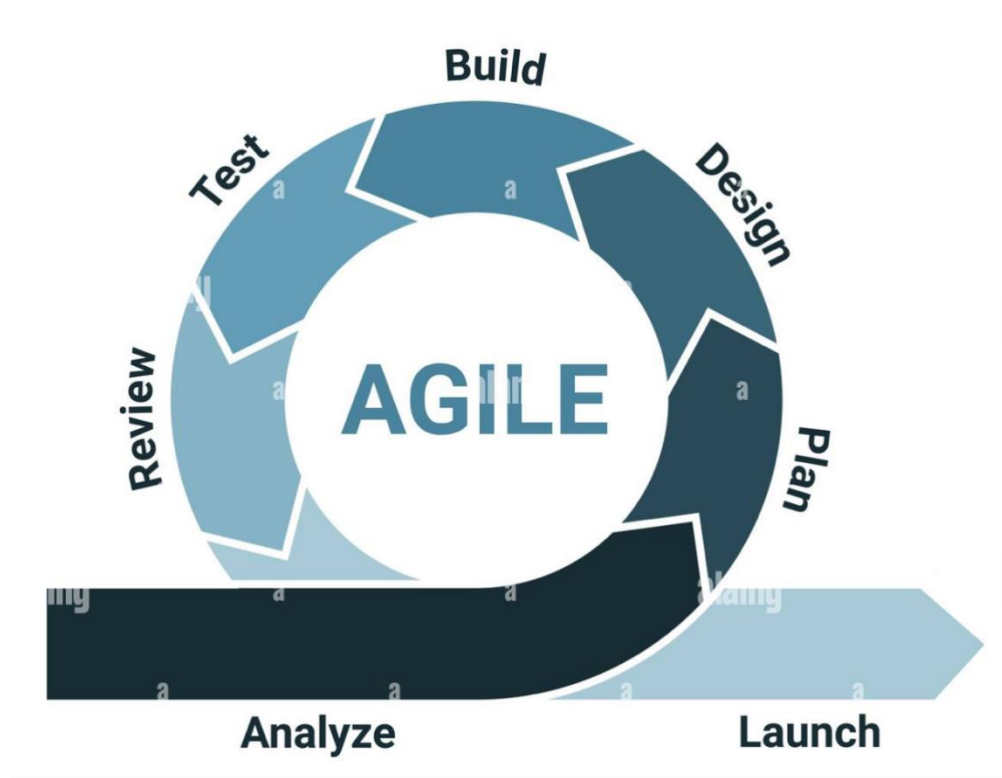
The agile development model in the software development life cycle is illustrated in the figure below.



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Agile methodology is a flexible and iterative approach to software development that is well-suited for projects that have changing requirements and require regular feedback and adaption. This research highlights the core ideas and practices of Agile methodology, as well as how they might be used to the development of the learning management system.

Agile is an umbrella word for any approaches that include both iterative and incremental software development. It's popular in the software sector. (Heath 2020). As the name implies, agile is dynamic, flexible, and adaptable to many scenarios encountered during development. (Heath 2020).

The Agile Method is a must-have in today's fast-paced world. This is a growingly popular way of working. It is an approach that promotes task completion quickly and effectively. The goal is to work smarter, not harder. The agile problem-solving strategy is adaptable, allowing for changes



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and improvements as needed. The following are the major principles of the Agile method:
[numbers]

- Agile methodology places people and connections ahead of procedures and equipment, and it places a heavy emphasis on teamwork. This shows that the emphasis is on people and their interactions with one another, rather than procedures and technologies.
- According to the agile methodology, delivering functional software takes precedence over providing thorough documentation of methodology. As a result, there is little paperwork and a focus on getting things done.
- Collaboration with the customer during contract negotiations is recommended since it allows for a better understanding of the client's needs and wants. This means that the team's relationship with the client is more important than contracts.
- Agile methodology, rather than sticking to a plan, promotes adaptability and flexibility. The focus is on being able to adapt quickly to changing conditions so that plans can be adjusted as needed.

Thus, the Agile technique is a way of working that prioritizes people and their relationships, functional software, tight collaboration with clients, and flexibility and adaptability. By following to these principles, teams can perform more productively and successfully, creating results promptly and efficiently. (Ismail et al., 2023) [21]

Additionally, given its flexibility and capacity to handle changing requirements, Agile approach can considerably help the development of learning management system. The following Agile principles can be used to develop the said system:

- User stories are concise descriptions of desired functionality written from the standpoint of end users. The Product Owner will collaborate with stakeholders to define the system user stories. These user stories will be used to prioritize and schedule the development efforts for each sprint.



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- Daily stand-up meetings are brief, concentrated sessions in which team members share their work, plans, and any challenges they face. These gatherings foster transparency, collaboration, and rapid problem resolution.
- The team will use continuous integration and testing procedures to assure the stability and quality of the system. This entails merging code changes on a regular basis, running automated tests, and performing manual testing to detect and fix issues early in the development process.

Furthermore, several advantages can be gained by using Agile technique to construct Learning management system:

- Increased user satisfaction: Consistent user interaction and input allow for the constant refining of features, ensuring that they are in line with user expectations.
- Agile enables changes and updates to be integrated throughout the development process, supporting changing requirements and technical developments.
- Early and frequent delivery: Because Agile is iterative, functional increments of the system are supplied on a regular basis, offering early value to the user.
- Agile encourages strong collaboration and communication among team members and stakeholders, promoting a shared knowledge of project goals and progress.

In conclusion, Agile approach provides an appropriate foundation for the creation of TUTOR HOUSE LMS, a learning management system for Tutor House Inc.. The development team can build a high-quality, user-centric application while accommodating changing requirements and preserving flexibility throughout the development lifecycle by embracing Agile principles and practices such as user stories, daily stand-up meetings, and continuous integration.



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TECHNICAL BACKGROUND

Table 3.1 Hardware Requirements

Hardware Requirements	
Specification	Description
Processor	Intel Core i5 Processor
HDD (Hard-Disk Drive)	120 GB
RAM (Random Access Memory)	4 GB Ram
Network	Ethernet or Wi-fi
Display	16-inch display or greater
Peripherals	Keyboard and external mouse or touchpad

The hardware requirements table lists the minimum hardware components needed by users to run the LMS. It has a minimum processing unit, such as an Intel Core i5 Processor, to guarantee optimal performance, a minimum of 4 GB RAM to minimize ram shortages, and an internal storage of 120 GB HDD or greater for storing applications and data. A monitor with a display size of 16 inches or larger is suggested. For user interaction, peripherals such as a keyboard and touchpad or an external mouse are required.

Software Requirements	
Software	Description
Operating System	Microsoft Windows 7/10
Development IDE (Integrated Development Environment)	Sublime Text & Visual Studio Code
Front-end Language	HTML & CSS
Back-end Language	JavaScript, PHP



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The minimum and/or maximum hardware and software criteria that a system or application must meet in order to perform properly are referred to as system requirements. For efficient coding, we recommend using an integrated development environment (IDE), such as Sublime Text and Visual Studio Code. The researchers use HTML and CSS to structure and layout the user interface for front-end development. The researchers use JavaScript and PHP for database management on the back end.



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CHAPTER 4

RESULTS AND DISCUSSIONS

This chapter presents the interpretation of the gathered data results anchoring the objectives of the study, as well as the evaluation of the system using ISO 25010. There are some tables that the researchers added to further visualize the output of the said results and evaluations in order to explain it more clearer.

The main objective of the study is to create a basic Learning Management System for the staff, tutors and students of small institution of Tutor House Inc., located at Brgy. Canlubang, Calamba City. The said learning management system will allow the teachers to upload lessons, activities and even assessments for the tutee and parents which avails their tutoring services. By digitalizing all the basic learning processes of the institution, the researchers deemed to determine if the implementation of a simple Learning Management System can make the traditional learning processes easier than before. On the other hand, the end-user experience for students is they can be able to track their progresses, download lessons, upload answered sheets for the teacher to check and grade it as well. The level of management is based on three roles, in which the administrators will be handled by the main staffs of the institution, as well as tutors or the teachers, and the students and its parents as guide for them.



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Table 4.1. Objectives 1 & 2 : Survey Results

Objectives 1 & 2	Highest Proportion	Median	Interpretation
1. The current manual system effectively informs about my child's academic progress.	43%	3	Moderately Agree
2. Clear visibility into my child's academic situation is a challenge with Tutor House Inc.'s current system.	55%	3	Moderately Agree
3. Tutor House Inc.'s conventional education approach inadequately prepares students for contemporary learning.	43%	3	Moderately Agree
4. Timely feedback on my child's assignments and assessments is lacking in the manual system, complicating the understanding of their academic performance.	38%	3	Moderately Agree



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5. I am satisfied with the current manual

assessment and feedback from teachers.	35%	3	Moderately Agree
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6. Administrative processes are not

conducive enough, leading to extra	50%	4	Agree
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paperwork and a less organized

educational experience.

7. Lack of transparency and clarity in

academic performance results from	45%	4	Agree
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manually recording student progress.

8. Staff and administrators efficiently

fulfill responsibilities in supporting	40%	4	Agree
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students' academic needs through the

existing manual system.

9. Implementing advanced technology

would positively impact the work	43%	4	Agree
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efficiency of staff and administrators.

10. The traditional learning management

system sufficiently addresses the	33%	4	Moderately
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security and privacy concerns associated			Agree
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with students' academic data and
records.

Legend: 5- Strongly Agree 4-Agree 3-Moderately Agree 2-Disagree 1-Strongly Disagree

The results for the survey questionnaire anchored to the objectives 1 & 2 of the study serves as a pre-evaluations if the institution is ready to be supplemented by a learning management system that will shift from traditional to blended learning processes to further cater larger demographics, that might lead to the growth of the tutor institution. Based on the tabulated results above, the highest proportion for objective 1, which answers the first five questions in the survey questionnaire has an overall average of 44% of the respondents which says they are moderately agree to the statements 1-5. On the other hand, the objective 2 which caters the statements 6-10, garnered an overall average highest proportion of 42% which can be attributed as agree based on the statements of the respondents.

This means that the current tutoring system that the Tutor House Inc., is following is somehow effective for the students, based on the parents and the staffs of the said institution. However, the researchers deemed that the implementation of a learning management system might be able to improve the current standard that the institution is following, based on the data gathered and discussed above.

This outcome supports the idea of Adelakun et.al(2022) which states that the implementation of a learning management system is actually effective in terms of today's learners



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who are immersed with the current technological standards. Even in small institutions like Tutor House Inc., having an LMS will lead to much broader scope of tutoring services, not just to their locality, but can expand larger locations outside their current scope. Also, the enjoyment of staying in front of a gadget or devices playing can be changed by adding some educational systems like LMS, so that the parents can also maximize the time they give to their children in using such devices. But, also according to the study, it might face some challenges if an implementation of a Learning Management System will take place to a certain institution. Factors like connectivity, availability and the ability of the student to utilize the LMS may result to problems. In summary, learning management system might be new to a lot of people, especially for those who are not computer literate, but studies supports that the implementation of it can make a new classroom experience for students and teachers, also can contribute to the growth of the institution who uses it.

To address the objective 5, the researchers sought for evaluation of the system in line with the ISO 25010:2010 standard.

TABLE 4.2. System Evaluation based on Usability

Usability	Highest	Median	Interpretation
	Proportion		



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The system is easy to utilize and control.	75%	4	Agree
The buttons and other user interactions are working properly.	85%	5	Strongly Agree
The system user interface has a pleasing and satisfying experience for the user.	75%	4	Agree

Legend: 5- Strongly Agree 4-Agree 3-Moderately Agree 2-Disagree 1-Strongly Disagree

Table 4.2 shows the the Tutor House LMS can be easily utilized both by the students and staffs of Tutor House Inc. Three statements that supports the usability of the system are presented to the table such as “the application is easy to use” got a highest proportion of 75%, with a median of 4 and interpreted as Agree while “the buttons and user interface are working properly and giving satisfaction to the user” got 85% and 75% respectively, overall, usability is interpreted as Agree with an overall proportion of 78%.

This supports the statements of Ravi et.al(2013) which states that effectiveness of an LMS can be attributed to its usability features, such as button interactions in order to get a certain information requested by the user. In conclusion, the current state of the Learning Management system is easy to utilize, user-friendly and properly working.

TABLE 4.3. System Evaluation based on Reliability



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Reliability	Highest Proportion	Median	Interpretation
The user can rely to the content of the system and the information it gives.	75%	4	Agree
The system itself is reliable under any circumstances.	70%	3	Moderately Agree

Legend: 5- Strongly Agree 4-Agree 3-Moderately Agree 2-Disagree 1-Strongly Disagree

Table 4.3., on the other hand, is based on the reliability of the system from the results of its evaluation. The statements “user can rely to the content of the system and the information it gives”, as well as “the system is reliable under any circumstances” got a highest proportion of 75% and 75%, with a median of 4 and 3, both respectively. It states that the system must be reliable for the user. The overall proportion garnered by the reliability characteristics of the system garnered a 73% which falls to the interpretation of Agree.

The study of Ravi et.al(2013) also agreed upon the general reliability of an LMS, which states that if an institution wanted to maximize the usage of LMS, it must be reliable based on the information it gives, as well as it accessible in any way possible. By this, the information disseminated through the lines of the system would cater a lot of students that deals with miscommunication problems when they step outside the school premises.

TABLE 4.4. System Evaluation based on Functionality



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Usability	Highest Proportion	Median	Interpretation
The system serves its functions based on the specified tasks and objectives.	75%	4	Agree
The overall user experiences(I.e. buttons, grading system) is well-attained.	75%	4	Agree
The system serves its purpose.	100%	5	Strongly Agree

Legend: 5- Strongly Agree 4-Agree 3-Moderately Agree 2-Disagree 1-Strongly Disagree

Table 4.4 states the evaluation of the system based on its functionality, supported with the statements such as “the system serves its functions based on the tasks and objectives given”, “the overall user experience is well-attained” both had a highest proportion of 75%, median of 4 and interpreted as agree, while “the system serves its purpose” garnered 100% highest proportion, median of 5 and interpreted as Strongly Agree. The overall proportion result was 83% and interpreted as Agree.

Similar study conducted by Messaoudi(2021) which utilized an online system called Edmodo to the students of English Language as a medium of online learning modality. The result implied that the functionality features of Edmodo made it more likeable and can be introduced to more students in the future.

Functionality is one of the key attributes of a system that most of the objectives must’ve met, as it will define how the developed system will work.



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TABLE 4.5. System Evaluation based on Efficiency

Usability	Highest Proportion	Median	Interpretation
The system generates the user requests regularly.	75%	4	Agree
The system displays its features promptly.	75%	4	Agree
The system responses relatively to the time it is functioning.	70%	4	Agree

Legend: 5- Strongly Agree 4-Agree 3-Moderately Agree 2-Disagree 1-Strongly Disagree

Table 4.5 states the system's evaluation based on efficiency. The statements "system generates the user requests regularly" and "the system displays its features promptly" both gathered a highest proportion of 75%, median of 4 and interpreted as Agree, while "the system responses relatively to the time it is functioning" garnered a highest proportion of 70%, median of 4 and also an interpretation of Agree. Overall, the average proportion is 73% and interpreted as Agree.

Similarly, Messaoudi(2021) also stated that the real-time interaction and response time of a learning management system can also entice future users based on the current human-computer



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interactions that Edmodo system offers. Thus, efficiency is one of the key elements of a software development that the developer must rely on too for generating a smooth user experience.

TABLE 4.6. System Evaluation based on Maintainability

Usability	Highest Proportion	Median	Interpretation
The system and its features can be modified without introducing defects and bugs.	60%	3	Moderately Agree
The system can be tested and assessed if the criteria has been met.	85%	4	Agree

Legend: 5- Strongly Agree 4-Agree 3-Moderately Agree 2-Disagree 1-Strongly Disagree

Table 4.6 explains the result of system evaluation based on maintainability. The statements “system and its features can be modified without introducing defects and bugs” gathered the highest proportion of 60%, median of 3 and interpreted as Moderately Agree, while “the system can be tested and assessed if the criteria has been met”, gathered 85% of the highest proportion, with a median of 4 and interpreted as Agree. The overall average proportion is 73% and interpreted as Agree.



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CHAPTER 5

SUMMARY, FINDINGS AND RECOMMENDATION

This chapter contains the summary and findings from the data gathered and recommendations for future studies to develop. It can guide future researchers and serve as additional knowledge for the research study.

SUMMARY OF FINDINGS

The thesis sought to investigate the implementation of a Learning Management System (LMS) as a means to establish a virtual system for students and staff at Tutor House Inc. The study specifically addresses key participants involved in the home tutoring program facilitated by the LMS, targeting pre-school and elementary students in Canlubang, Calamba, Laguna.

The study revealed that the implementation of a Learning Management System (LMS), particularly utilizing web applications, can serve as an effective means to gauge the well-being of primary level students. This approach offers the capability to generate real-time data, enabling the identification of students at potential risk and facilitating prompt interventions within the virtual system established for the students and staff of Tutor House Inc.



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The findings underscored the prevalence of traditional learning methods within Tutor House Inc. prior to the LMS implementation, with challenges such as manual record-keeping, inefficient communication, and limited access to educational resources. The Learning Management System emerged as a transformative solution, addressing these challenges and enhancing the overall educational experience for both students and staff. Moreover, the study emphasized that the successful implementation of the Learning Management System was instrumental in improving administrative efficiency, streamlining communication, and fostering a more dynamic and engaging learning environment. The digital platform not only modernized educational practices but also presented opportunities for personalized learning experiences tailored to the needs of Tutor House Inc.

CONCLUSION

In conclusion, the study suggests that the implementation of a Learning Management System (LMS) can be an effective approach in providing a virtual system for students and staff at Tutor House Inc. However, it is crucial to acknowledge that the LMS should not be seen as a replacement for personal interaction and support. The active involvement of educators, administrators, and parents is vital for the success of any educational intervention. The study emphasizes the need for effective monitoring and intervention strategies to enhance the learning experience and overall academic well-being of students at Tutor House Inc. The Learning Management System plays a crucial role in identifying areas for improvement, tailoring educational content, and facilitating targeted interventions to address individual learning needs. It is essential to recognize that the success of the LMS relies on collaborative efforts between the



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educational institution, educators, and the students' families. Furthermore, the study underscores the importance of fostering collaboration between educational practitioners, technology experts, and families in promoting a dynamic and engaging virtual learning environment. While the Learning Management System enhances educational processes, it is essential to maintain a holistic approach that values the contributions of all stakeholders for the overall success of the virtual system at Tutor House Inc.

RECOMMENDATION

The researchers propose the following recommendations based on the conclusions and summary of findings from the Learning Management System (LMS) implementation study for Tutor House Inc.:

1. **System Configurations and Improvement:** The researchers recommend future researchers to improve the current state of the Tutor House LMS in terms of serving more students in the future. This will support the concept of maintainability evaluation from the system's initial development and to make the user experience more easier.
2. **Mobile Application Development:** Suggest developing a mobile application companion to the LMS, allowing students, educators, and staff to engage with the virtual system on mobile devices. This mobile app should provide convenient access to essential features, enhancing flexibility and user experience.
3. **Online Backup System:** Recommend implementing an online backup system for the LMS. This would serve as a precautionary measure, ensuring that in the event of document loss,



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there is a secure online copy available for recovery. Efficiency Enhancement for Mobile Access: In the event of developing a similar system, advise future researchers to enhance the efficiency of the system, particularly when accessed via mobile phones. Learnings from this study can guide improvements in processes and procedures, ensuring a seamless experience for users accessing the virtual system on mobile devices.

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