**CHAPTER I**

**INTRODUCTION**

**Background of the Study**

Over the past half century, computer technology has transformed our world by providing us with incredible tools for processing and communicating information. They are essentials in almost all the business dealings that are made nowadays. Computer technology also has a deep impact on education. Computer education forms a part of the school and college curriculum, as it is important for every individual today, to have the basic knowledge of computers. Schools and universities around the world are using computer technologies to teach students digitally and creatively with data visualization. Uses of the computer in a classroom will explore creativity and imagination in students mind. Audio, lectures and power point presentations etc. are very beneficial for students to learn more deeply and accurately (Ukeessays,2015).

Computer Aided Instruction is considerably changing education and organizational training. With the advancement of online-based learning systems, learner control over the instructional process has emerged as a decisive factor in technology-based forms of learning. (Wiley, J., 2017).

According to Christian (2013) Philippine literature is the body of works, both oral and written, that Filipinos whether native, naturalized or foreign born have created about the experience of people living in or relating the Philippine society.  
Brother Azurin, said that “literature expresses the feelings of people to society, to the government, to his surroundings, to his fellowmen and to his Divine Creator.”  
For Webster, literature is anything that is printed, as long as it is related to the ideas and feelings of people, whether it is true, or just a product of one’s imagination.  
Philippine literature is the literature associated with the Philippines and includes the legends of prehistory, and the colonial legacy of the Philippines, written in both Indigenous, and Hispanic languages. Most of the notable literature of the Philippines was written during the Spanish period and the first half of the 20th century in Spanish language. Philippine literature is written in Spanish, English, Tagalog, and other native Philippine languages.

Capiz State University Mambusao Satellite College is one of the universities who offered Philippine Literature. Usually instructors who handled this subject get lesson from textbooks. The number of textbooks available on the library of the campus is limited and not enough for all students who takes Philippine Literature subject for them to have individually. With this, since most of the students have Android Phone, tablets and laptops, the researcher decided to propose Computer Aided Instruction in Philippine Literature in order to solve this problem. Once the study was develop and implemented the students will only download their lessons to their device and no need for them to have a photocopy of their lessons and borrow textbooks on the library. Since the content of this propose system will from the textbooks that the instructors currently using.

**Objectives of the Study**

The general objective of the study is to design, develop and determine the acceptability of Computer-Aided Instruction in Philippine Literature.

Specifically, it aims to:

1. create a Computer-Aided Instruction in Philippine Literature for the students that encourage students who enrolled the subject;

2. develop a system that will provide exercises on every lesson to enhance the knowledge and ideas of the students;

3. to propose a system that can give complete lesson and reference for all instructions in Philippine Literature and;

4. determine the acceptability of Computer-Aided Instruction for Philippine Literature in terms of content, appearance, sounds, design, efficiency and operating performance.

**Scope and Limitations of the Study**

This study will be limited only to the development of Computer-Aided Instruction in Philippine Literature. The topics focused only in lessons found in textbooks in Philippine Literature by Santiago, Erlinda M, entitled Panitikang Pilipino Kasaysayan at Pag-unlad Pangkolehiyo. The propose system will be design as an accompaniment for classrooms instruction to make the discussion easier for the teacher and students to learn faster. It will provide exercises and sounds that would make the discussions more fascinating.

In determining the acceptability of the propose system, an adopted questionnaire from the study of Ocbena et al. (2018)will be use and it will be evaluated in terms of content, appearance, design, sounds, efficiency and operating performance.

**Significance of the Study**

The Computer Aided Instruction in Philippine Literature for the students who enrolled the subject will have a great significance when it comes to the learning of lesson and topics regarding the subject. Moreover it can also benefit by the following:

**Teachers**

The teacher can easily discuss and give instructions to the students. After discussion the teachers can give exercises to the students.

**Students**

The student can easily understand the topics and give feedback to the discussion. The propose system can help the students to focus in the lesson.

**Researchers**

The propose system will able to enhance and improve their skills and computer programming. The researcher will able to develop teamwork, self-confidence and self-discipline.

**Future Researchers**

Future researchers could benefit from this study by using it as their reference for conducting related researches.

**Definition of Terms**

**Acceptability** isthe quality of being tolerated or allowed, the quality of being accepted (oxforddictionaries.com, (2018). In this study, it refers to the capability of the System to be accepted by the user in terms of content, appearance, sound, design, efficiency, and operating performance.

**Appearance** The way that someone or something looks (oxforddictionaries.com, 2018). In this study, it refers to the capability of the content and design.

**Computer-Aided Instruction** (CAI) is an interactive instructional technique whereby a computer is used to present the instructional material and monitor the learning that takes place. CAI uses a combination of text, graphics, sound and video in enhancing the learning process (wikieducator.org, (2008). In this study it pertains to the use of instructional programs to perform instructional tasks, such as drill and practice and tutorial that can be used by the teachers for instructional materials.

**Design** is to create fashion, execute, or construct according to plan,to make a drawing, pattern, or sketch of (investopedia.com, 2018). As used in the study, design refers to the process by which structures and instructional materials are developed in the proposed system.

**Efficiency** is the comparison of what is actually produced or perform with what can be achieved with the same consumption of resources (businessdictionary.com, 2018). As used in the study, efficiency refers to the use of all inputs in producing any given out including personal time in the proposed system.

**Philippine Literature** is the body of works, both oral and written, that Filipinos whether native, naturalized or foreign born have created about the experience of people living in or relating the Philippine society. Literature deals with ideas, thoughts and emotions of man, literature can be said to be the story of man ([prezi.com](https://prezi.com), 2018). In this study it refers to the subject of second year students where the researchers had anchored their system.

**Operating Performance** This is a measure of how well the company is doing. Many different measures, such as expense ratios, sales performance and policy terminations are taken into consideration when evaluating operating performance(Answerfinancial.com, 2011). As used in the study, it refers to the effectiveness, precision and appropriateness of the proposed system that meets the needs of the user.

**Sound** is something that you can [hear](https://dictionary.cambridge.org/dictionary/english/hear) or that can be [heard](https://dictionary.cambridge.org/dictionary/english/hear). (dictionary.cambridge.org, 2018). As used in this study, sound gives liveliness in the system that attract to the user.

**User** The definition of a user is someone who operates, or puts something into action (Yourdictionary.com, 2017).In this study it refers to the teachers who will use or operate the system.

**CHAPTER II**

**REVIEW OF RELATED LITERATURE**

**Definition, Advantages and History of Computer Aided Instruction**

Computer Aided Instruction (CAI) refers to an educational system of instruction performed almost entirely by computer. While CAI can refer to the use of computers in a classroom, they more broadly refer to a structured environment in which computers are used for teaching purposes. Misconceptions can be corrected as they appear and the students' records and scores are made available to the instructor. The use of computers in the teaching and learning process is much needed in making the highest quality of education universally available, and thus allowing each person to most fully develop their potential (World Encyclopedia, 2011).

Computer programs are interactive and can illustrate a concept through attractive animation, sound, and demonstration. They allow students to progress at their own pace and work individually or problem solve in a group. Computers provide immediate feedback, letting students know whether their answer is correct. If the answer is not correct, the program shows students how to correctly answer the question. Computer-aided instruction improves instruction for students with disabilities because students receive immediate feedback and do not continue to practice the wrong skills. Computers capture the students' attention because the programs are interactive and engage the students' spirit of competitiveness to increase their scores. Also, computer aided instruction moves at the students' pace and usually does not move ahead until they have mastered the skill. Programs provide differentiated lessons to challenge students who are at risk, average, or gifted (The access center, 2018).

CAI is designed to help students learn new materials through interacting with the computer and students can progress learning with their own speed. An instruction that used computer or digital device to monitor the learning that takes place and present the instructional material. The computer has many purposes in the classroom, and it can be utilized to help a student in all areas of the curriculum. CAI programmers use tutorials, drill and practice, simulation, and problem solving approaches to present topics and test the language learners understanding (Igi Global, 1988).

CAI can dramatically increase a student's access to information. The program can adapt to the abilities and preferences of the individual student and increase the amount of personalized instruction a student receives. Many students benefit from the immediate responsiveness of computer interactions and appreciate the self-paced and private learning environment. Moreover, computer-learning experiences often engage the interest of students, motivating them to learn and increasing independence and personal responsibility for education. Some student failures can be traced to inadequate teacher training in CAI systems. Student training in the computer technology may be required as well, and this process can distract from the core educational process (Arnold, 1997).

Computer-Aided Instruction provides a lot of advantages for language learning and teaching. It is also a powerful tool because it gives the students control over their learning, individualizing their needs accordingly, promoting at the same time learner independence and development of learning strategies. It is a resourceful tool because it gives students constant access to plenty of materials, such as newspapers and magazine articles, movie reviews, book excerpts. It is an educational tool because it offers students the opportunity to actively take part in activities beyond classroom and course books, in the target language, exchanging messages with native speakers and interacting in the target language, as part of cultural and social exchange, the outcome being an improvement in reading and writing skills. It is a confidence gain tool because the Internet is text driven, and offers even most shy or hesitating people time and space to think and participate in discussions and information exchange, and by communicating and interacting, students will improve their linguistic skills, change their learning attitude by building self – confidence (Ciornei, 2013).

These CAI features greatly enhance the degree of student participation. Constructivist learning theory emphasizes students actively involved is the key factor to improve learning outcomes. By the way of providing students with a variety of teaching resources and the creation of a learning situation, CAI courseware would enable students to participate in the teaching activities as learning subjects, and knowledge can be achieved through the construction of meaning. Teaching students in this way can achieve excellent results, their reading, reciting and speaking ability have been constantly enhanced, and their interest in learning have been greatly stimulated. By the way of improving the enthusiasm of students and applying multimedia teaching in classroom teaching, not only the interaction between the students and the machine can be achieved, but also multi-directional communication between students and students, between students and teachers can be reached (Yanan, 2013).

The earliest computer-aided instruction was invented in 1925 - Pressey's multiple-choice machine (developed by Sydney Pressey, Professor of Psychology at Ohio State University). Pressey's multiple-choice machine presented instruction, tested the user, waited for an answer, provided immediate feedback, and recorded each attempt as data. In 1950, Norman Crowder developed a process for the U.S. Air Force in which a CAI program presented some content as text, tested the user, provided some feedback, and then branched to corrective instruction or new information based on supplied responses. Branching was thought to be an advance on Pressey's multiple-choice machine. By the late 1950s early computers were available and promised to offer a better platform than mechanical devices for teaching machines. However, it was not until the 1980s before there was widespread interest in the computer as an instructional tool. These early applications of computers to education were mostly demonstrations to show the potential of computers in education. Researchers extended Skinner's work and used sophisticated mathematical models of student learning to help design instructional materials and strategies to achieve a level of individualization. A project "The Programmed Logic for Automatic Teaching Operations (PLATO)" commenced at the University of Illinois in 1959. By the late 1960s, the PLATO system was using time-sharing computers to allow large numbers of people to interact with lesson modules created by the TUTOR programming language. Subsequent developments in programmed instruction (CAI) arise from perspectives influenced by behaviorism and cognitive science. While teachers have mostly used CAI for drill and practice especially in teaching mathematics and languages, there have been other users of CAIs as well (S. Vighnarajah, N/A).

**Implications of CAI as a Teaching Strategy**

The use of Computer-Aided Instruction (CAI) in schools has become an important topic of research among educators with the widespread availability of microcomputers to aid teachers and students in their teaching and learning process. This research study adopts a path modeling approach, whereby the various factors during different stages of the teaching and learning are examined before the final outcome, the student's learning effectiveness (Teo, ‎2001).

In determining the effect of computer assisted instructional method on students’ performance, two groups of student for a period of two semesters in the introduction to computer science and electronic data processing courses offered at the department of computer science, Adeniran Ogunsanya College of Education were used as samples. One group was taught with conventional teaching method and the other with computer assisted instruction software package. As this was the first attempt in deploying CAI in teaching computer concepts in the department, it was primarily employed as educational means of teaching with CAI software (Imran, 2011).

In this study, the effect of computer aided teaching of acid-base subject on the academic achievement science and technology course is investigated. In the material developed by the researcher, it was aimed to enable students learn acid-base subject by using interactive animations and simulations. In order to collect data, a scale consisting of 30 questions was developed by the researcher. As a result of the study, it was found out that teaching of acid-base subject supported with computer aided teaching had a positive effect on the achievements of students in science and technology course (Bayrak, 2010).

**Studies conducted for Effectiveness of CAI in Classroom**

According to Orndorff (1987) implemented a course at Duquesne University in Pennsylvania, which combined the teaching of reading skills with computer aids that provided different kinds of support. He employed two computer programs focusing on critical reading and thinking. The first one was designed to teach students how to analyze a work of literary genre and structure and to be used with a book. The second one allowed teachers to create tutorials which featured different types of question and answer formats, an on-line dictionary, screen manipulations. These two programs also included different activities such as summary writing and short essay questions. The findings showed that because of such programs, the students’ levels of achievement and retention increased.

According to AbuSeileek (2004) investigated the effect of a computer-based program on Jordanian first secondary grade students’ writing ability in English. The study revealed that there were statistically significant differences between the mean scores on the writing task of the experimental group who received instruction via computer and the control group who received instruction via the traditional method in favor of the experimental group.

According to Rufino et al. (2016) the purpose of the study was to create a Computer Aided Instruction for Computer System Servicing of David Moises Memorial High School for Grade 9 students to enhanced and developed knowledge of the students. It is also capable for computerized tutorials, drills and practices about Computer System Servicing. The acceptability of the Computer-Aided Instruction for Computer System Servicing for Grade 9 Students was determined to be “Highly Acceptable”.

**Reasons why to use Computer Aided Instruction**

Computer Aided Instruction provide one-to-one interaction with a student, as well as an instantaneous response to the answers elicited, and allow students to proceed at their own pace. Computers are particularly useful in subjects that require drill, freeing teacher time from some classroom tasks so that a teacher can devote more time to individual students. Because of the privacy and individual attention afforded by a computer, some students are relieved of the embarrassment of giving an incorrect answer publicly or of going more slowly through lessons than other classmates (Britanica.com, N/A).

Computer assisted instruction can be Internet-based or run on a personal computer from a CD or DVD. Presentations on computers are particularly suited to subjects that are visually intensive, detail oriented, and difficult to conceptualize. With some systems, feedback can be geared towards a student's specific mistakes, or the computer can navigate the student through a series of questions adapting to what the student appears to have learned or not learned. This kind of feedback is especially useful when learning a language, and numerous computer-assisted language learning (World Encyclopedia, 2011).

It is an information that helps teach or encourages interaction can be presented on computers in the form of text or in multimedia formats, which include photographs, videos, animation, speech, and music. The guided drill is a computer program that poses questions to students, returns feedback, and selects additional questions based on the students' responses. Recent guided drill systems incorporate the principles of education in addition to subject matter knowledge into the computer program (Arnold, 1993).

**CHAPTER III**

**Methodology**

**Software Life Cycle Model**

The researchers used the waterfall model in developing the Computer Aided Instruction in Philippine Literature for the students who enrolled this subject at Capiz State University Mambusao Satellite College.

The propose system is aiming to develop a Computer Aided Instruction for Philippine Literature. It undertakes different kinds of cycle. First is the “Planning” which involves the concepts, capacity and services which can be identify in the objectives. Second is the “Analysis” followed by the “System Design” then the “Development Coding” and lastly the “Testing” which involves the capability for the development software.

Development Coding

Analysis

System Design

Testing

Planning

Figure 1.0 Waterfall life cycle model of Computer Aided Instruction in Philippine Literature.

**Software Development Phase**

The researchers will develop the Computer Aided Instruction in Philippine Literature for the students who enrolled his subject at Capiz State University Mambusao Satellite College. It is a sequential software development process in which progress in regarded as flowing in increasingly downwards similar to develop Computer Aided Instruction system for Philippine Literature. The Computer Aided Instruction for Philippine Literature defines several consecutive phase that must be completed on after the other and moving to the next phase only when its preceding phase is completely done. Necessarily, the Computer Aided Instruction for Philippine Literature comprises Planning, Analysis, System Design, System Design, and Testing.

**Requirement Phases**

**Planning**

The researchers investigated the existing problem in Capiz State University Mambusao Satellite College, they found out that the school is still using manual way of teaching and the school was lack of books for the students to have individually so the researchers propose to create the Computer Aided Instruction in Philippine Literature for the students who enrolled this subject to help lessen the work and time of the teachers.

**Analysis**

The analysis of the current system shown that the process of the teacher in teaching Philippine Literature in Capiz State University is still using textbooks to discuss the lessons to the students. The students afterwards will be tested or evaluated by the teacher about the lesson that was presented. Therefore the propose system will help the teachers lessen their school works and also it can help the students to participate well in this subject.

Textbooks

Students

Teachers

Figure 2.0 The current data flow diagram of teaching Philippine Literature.

**System Design**

After analyzing the problems being encountered at Capiz State University Mambusao Satellite College using their current system the researchers created Computer Aided Instruction for Philippine Literature that would be the solution to the problem when the teacher presents her lessons to its students. In this propose system the teacher will be the one to operate first the system and will give instruction to the students to use the Computer Aided Instruction system.

Teacher

Computer Aided Instruction for Philippine Literature

Students

Figure 3.0 Propose System Diagram of Computer Aided Instruction for Philippine Literature for Second Year Students.

**Development Coding**

After designing the Computer Aided Instruction system, the researchers will convert the design into codes. This phase purpose is to translate the design system into codes using a definite programming language that is appropriate to the system.

**Testing**

Initial Testing. The propose educational learning activities system will involve critical testing and evaluation. The Advisory committee will give some interesting suggestions to be apply by the researchers.

Final Testing. With this, the system will bring to Capiz State University Mambusao Satellite College. The respondents will answer the questioner while they are testing the system. They will evaluate the system in terms of Content, Appearance, Design, Sounds, Efficiency and Operating Performance.