

Foreign and local related literature essay sample

[Education](#)



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The learning process needs techniques and tools to present the knowledge (from different resources), interact with it and share it with others. In this context, eLearning is becoming an important tool to support the learning system to achieve its goals. ELearning became hot topic in the 1990's after the spread of the internet. Although it has a relative short history, it is becoming an important part of learning. The majority of the universities adopted some kinds of eLearning within its learning system.

Generally, the internet is new media, it has been spread in 1990's furthermore, the E-learning is very recent tool, and so this sector needs more and more researches.

E-learning, like many terms in cyberspace, does not have current definition which can be accepted by all. Some terms which are frequently interchanged with E-learning include:

- Online learning/education
- Distance education/learning
- Technology-based training
- Web-based learning/training
- Computer-based training/learning from a CD-ROM

The researchers can find many definitions of E-learning much more than what they expected because E-learning is becoming very interest to many.

Also we find a specific definition, “ E-Learning: the use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services as well as remote exchanges and collaboration.”

We will not argue in our research, if using audio or video tape, satellite TV and CD-ROM are part of E-learning or not. Anyway those tools already are used and will be used as part of E-learning or beside it to support learning in both traditional and open universities. However, our research will not study the using to those tools; rather it will focus on the internet-based side of the E-learning solution.

Therefore, we can consider E-learning in our research as an umbrella that cover learning almost anytime, anywhere (asynchronous) on a computer, usually connected to a network.

E-learning is not intended to replace conventional methods of training such as classroom teaching. Its aim is to create an augmented learning environment where technology is used to deliver a combined range of teaching techniques aimed at maximizing the individual’s participation in the learning process.

Background of the Study

In October 1999, during a CBT Systems seminar in Los Angeles, a strange new word was used for the first time in a professional environment – ‘ e-Learning’. Associated with such expressions as ‘ online learning’ or ‘ virtual learning’, this word was meant to qualify “ a way to learn based on the use

of new technologies allowing access to online, interactive and sometimes personalized training through the Internet or other electronic media (intranet, extranet, interactive TV, CD-Rom, etc.), so as to develop competencies while the process of learning is independent from time and place". So the word itself is not that old but what about the elements of e-Learning? The development of the e-Learning revolution arose from a number of other educational revolutions. For such revolutions cited by Billings and Moursond (1988) are:

1. the invention of reading & writing;
2. the emergence of the profession of teacher/scholar;
3. the development of moveable type (print technology);
4. the development of electronic technology.

Theoretical concept

E-Learning Framework in Higher Education

In 2005, a study entitled, " E-Learning: A Foundation for Transformation" published the principle of E-learning that is generally regarded as using information and communications technologies for teaching and learning. These technologies may include, but are not limited to, the following: presentation technologies (e. g., PowerPoint), the Internet, videoconferencing, e-mail, specialist disciplinary software, learning management systems such as WebCT, simulations, and educational games. E-learning may involve such hardware as computers, personal digital assistants, and cell phones. The media used can combine audio, video, images, and text in a variety of combinations and using a range of approaches.

E-learning should be regarded as a facility or set of tools, not a particular teaching method. Indeed, e-learning may be used to support almost any kind of instructional approach, positive or negative. Examples of using e-learning constructively include approaches which combine more traditional teaching practices with information and communications technologies. For example, an instructor might use the Internet during his or her lecture to access online animations that supplement the class presentation. A course website might contain activities that facilitate active learning.

Communications applications such as online discussions groups might be used to enable collaborative problem solving among groups of students who have difficulty scheduling meetings. Instructors of fully online courses typically use little if any face-to-face instruction and depend almost entirely on e-learning.

The degree to which e-learning is used by instructors varies widely due to a number of factors including their personal teaching preferences, the nature of the subject matter, the students involved as well as the availability of technical and instructional design support. Quality instruction remains the paramount goal and e-learning should never be used for its own sake. The E-Learning Committee identified the following factors that contribute to the need to transform teaching and learning in higher education:

- Evolving nature of “ basic skills” required to be competent professionals •
- The opportunities provided by the increased effectiveness and reduced costs of information and communications technologies; •
- Pervasive use of

information technology by students leading to changes in learning preferences; • Synergy of teaching and research;

- Growing demand for alternative learning models to improve learning and increase accessibility;
- Greater availability of electronic learning resources and scholarly publications.

E-learning enables greater flexibility in terms of where and when students can participate in learning activities. As a result, those involved in discussing the advantages of using e-learning often concentrated on how it reduces barriers to accessing educational programs. However, from a pedagogical point of view, the focus of e-learning is not on access, but on learning. E-learning provides learners with the opportunity to be more active and to take greater responsibility for their own learning. It also gives faculty a wider variety of tools for facilitating participation and collaboration. (“ E-Learning: A Foundation for Transformation”, 2005)

Learning and Teaching On-line Framework

Online learning is so effective and well provided for today that it is difficult to argue against its being successful, as was done at the very start. It is obviously moving more and more from representing an instruction paradigm to becoming a learning paradigm, a distinction made in pedagogical theory. In an instructional paradigm, a specific methodology and a specific body of knowledge determine in large measure what the teacher does, including planning, choice of content, the lessons given and the tasks assigned. On the contrary, the teacher with a learning perspective provides students support, the students themselves actively discovering knowledge and constructing it.

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Thus, in the learning paradigm it is a student's own learning and success which set the boundaries and define the task. This really comes to the fore in online learning situations, since traditional lectures and classroom activities are lacking. For online learning to be successful, a complex system needs to be developed, one that provides sufficient planning but also involves a high degree of flexibility, allowing the student to manage much of what is done. (Jonsson, 2004)

Likewise, in 2004, Jonsson states that during the past decade, teachers and researchers have gained important insight into online learning and it appears that they can soon judge its overall effectiveness. Coomey and Stephenson summarize different learning strategies taken up recently in the literature and suggest a paradigm grid for online learning. The paradigms involved, presented briefly in Fig. 1, suggest there to be four basic perspectives or approaches one can take in regard to online learning, the figure placing them within in a metaphoric system of coordinates: (i) specified and teacher-controlled learning activities, (ii) teacher-controlled but open-ended or strategic learning, (iii) learning activities managed and specified by the learner, and (iv) learner-managed and open-ended or strategic learning.

Each of these four approaches can be described in terms of a particular characteristic, dialogue, involvement, support, control and teachers role, respectively. Experience during the last decade has shown the importance of structuring students' learning activities, of a course design that promotes dialogue, of helping learners become involved and of providing feedback and support. Although it is not a simple matter to decide what strategy to adopt

in planning an online course and how to develop it, the paradigm system described above may make this task easier.

Figure 1. 0, A summary of the “ E-Learning Paradigm Grid” for online courses suggested by Coomey and Stephenson based on one hundred research reports and articles, here redrawn as a system of co-ordinates. (D = dialogue, I = involvement, S = support, C= control, T = teachers role)., In the first quadrant (upper right) the learning tasks (e. g. case studies) and the principle learning goals are specified by the teacher, but the learners control how they work, in e. g. peer-group collaboration. In the second quadrant (upper-left) the teacher tightly specifies the activities and outcomes including the online (text) content, time schedule, deadlines, exchanges, with little possibilities for own initiative of the learner except for carefully controlled situations.

The third quadrant (lower-left) characterizes of that the overall direction, outcomes, purpose, field and level are set by the teacher or start with task-defined activities. The learners explore access and use any specific material in line with the direction set by the teacher. After completion of the “ set-learning” the students continue to explore the subject area in a more unstructured manner. Finally, in the fourth quadrant (lower-right) the learner is in control over the generally direction of the learning including learning outcomes as well as longer terms goals. Personal goals, i. e. reasons for the studies, are as important specific learning outcomes. Courses characterized in this quadrant are those which give the learner the most freedom of choice concerning goals, outcome and his/her progress. (Jonsson, 2004)

Figure 1. 0

E-Learning Paradigm Grid

In addition to the theoretical concept for e-learning through the application of transformative learning and analogical concepts, a framework is proposed for e-learning. The framework includes transformative learning by integrating disorienting dilemmas, threshold concepts (Land & Meyer, 2010), concept mapping, dynamic and progressive assessments, social learning, variability, inquiry, conflict, and humor to achieve new perspectives and learning. The framework is synchronized with the appropriate media as well as appropriate learner and educator skills and knowledge of the discipline.

While, according to Glancy and Isenberg (2011) that the e-learning processes are iterative and as knowledge is gained may often require additional information in order to achieve convergence and integration. The conceptual e-learning framework (CELF) is illustrated in Figure 2. 0.

[pic]

Conceptual framework

Conceptual Model of the Study

Conceptual framework, according to educational researcher Smyth (2004), is structured from a set of broad ideas and theories that help the proponents to properly identify the problem they are looking at. Most academic research uses a conceptual framework at the outset because it helps the proponents to clarify research system on its objectives.

RESEARCH CONCEPTUAL MODEL OF THE STUDY

Input Process Output

Feedback

Figure 3. 0

Research Conceptual Framework of the Study

Figure 3. 0 described the input, process and output diagrams of research implementation of the new learning strategy. It was classified into three major components namely: input, process, and output elements. These three elements of the system must be integrated with the common purpose to achieve the main objective of the study.

Statement of the problem

The developing countries are not able to use E-learning or unable to get full benefits of E-learning. The inability of the developing countries to get the benefit of E-learning has hindered lots of people in achieving further studies, enhancing their knowledge and lifestyle. Some of developing countries are trying to adopt fully functional E-learning systems but they are unable to achieve all the benefits.

E-learning Systems have become the need of time, so some of the developing countries are spending funds for the acquisition of these systems but are unable to achieve purposeful goals. Most of the developing countries have common problems like lack of infrastructure, resources and awareness. In some countries the culture and mindset has become a big obstacle for the implementation of E-learning systems. Their institutes and governments are <https://assignbuster.com/foreign-and-local-related-literature-essay-sample/>

struggling for fully functional E-learning systems, but all efforts seem to be worthless. In my thesis, I will investigate how these problems can be resolved with the support of information technology which is creating obstacles for the implementation of E-learning systems in developing countries.

Hypothesis

A factor inherent to the technology for e-learning is the ease of use of technological medium (Davis, 1989). The technology acceptance model (TAM) posits that individuals are more likely to adopt a technology if it is easy to use, and useful (Davis, 1989). We expect that in the case of e-learning technology, the usefulness is not easily differentiable since students need to use an online platform in order to do e-learning. However, the ease of use of the system can indeed influence their perception of e-learning success, particularly when educators use different software for assisting learning, with different levels of ease of use.

The easier the interface between the end user and the technology, the higher the likelihood that students will be motivated to participate in e-learning, and yield higher levels of satisfaction, intend to use the technology again, and perceive higher levels of efficiency and effectiveness. However, the relationships may not be direct. Technological features may facilitate, or hamper, successful use of a technology given internal drivers towards the technology. For example, ease of use coupled with existing online skills in technology use would result in the highest level of satisfaction, while low

ease of use coupled with lack of skills would result in low levels of satisfaction. Hence it is hypothesized that:

Hypothesis 1: A high level of online skills with e-learning technology coupled with high ease of use of the technology will generate higher e-learning outcomes than a low level of online skills with technology coupled with low ease of use of the technology.

Similarly, the relationship between attitudes towards the technology and satisfaction of e-learning would become more prominent when technology of high ease of use coexists.

Hypothesis 2: Higher levels of attitude towards technology coupled with high ease of use of the technology will generate higher e-learning outcomes than lower levels of attitude towards technology coupled with low ease of use of the technology.

Students who show strong personal innovativeness in information technology (PIIT) is likely to enroll in e-learning classes. Nevertheless, the likelihood of learners returning for another e-learning class will be influenced by the experience with the learning environment. For example, when the perceived difficulty to maneuver the technology in e-learning is high, the willingness to try the technology again may be deterred by the unfavorable e-learning environment.

Importance of the Study

A successful E-learning for this organization in this study is to possibly make them updated on their lessons; it enhances the value of learning through internet

Objectives of the Study

General Objectives:

The main objective is intended to create a Website that will teach on how the Operating System install, work, and what is its parts in an easy way.

Specific Objectives:

- To develop a Website
- To reduce learning cost by reducing the cost in buying books
- To improve teaching intensive reading by providing them a video made topics
- To teach autonomy training by helping them in self-studying
- To implement easy way of learning by using the Computer Aided Instruction Project Scope and

Limitation

The proposed system will use CAI and multimedia by providing them a topic video for the users of the proposed system.

Scope

The following are the scopes of the proposed system:

- To develop a system that has a guide on how to install, configure, troubleshoot the OS Linux openSUSE, Android & IOS with simulation
 - The system will include multimedia in the system like text, audio and videos.
 - The system will provide administrator for the questions that will be answered
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by the user. • The system will provide made to answer questions. • The system will have a database that can record the grades of the user • The system will update if some information needs to be added on the OS Linux openSUSE, Android & IOS • The system will update periodically whenever new content is available

Limitations

Our project will be limited only in the CCS department. And also our Website will just cover the given topic “ Development of Dynamic Web-based learning support Linux openSUSE, Android & iOS with Simulation” only other subjects that are not related or specify will not be included in the project.

Feasibility of the study

In this stage we first research some topics all about Computer Aided Instruction for our feasibility study to have a background to the innovation of the technology in teaching in our new generation using our new technologies.

Definitions of terms

E-learning- E-learning is the computer and network-enabled transfer of skills and knowledge. E-learning applications and processes include Web-based learning, computer-based learning, virtual education opportunities and digital collaboration. Content is delivered via the Internet, intranet/extranet, audio or video tape, satellite TV, and CD-ROM. It can be self-paced or instructor-led and includes media in the form of text, image, animation, streaming video and audio.

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openSUSE- is a computer operating system. It is built on top of the open source Linux kernel and is distributed with system and application software from other open source projects. SUSE Linux is of German origin and mainly developed in Europe. The first version appeared in early 1994, making SUSE one of the oldest existing commercial distributions. It is known for its YaST configuration tool.

Android- Android is a mobile operating system developed by Google. It is used by several smartphones, such as the Motorola Droid, the Samsung Galaxy, and Google's own Nexus One. The Android operating system (OS) is based on the open Linux kernel. Unlike the iPhone OS, Android is open source, meaning developers can modify and customize the OS for each phone. Therefore, different Android-based phones may have different graphical user interfaces GUIs even though they use the same OS. Android phones typically come with several built-in applications and also support third-party programs. Developers can create programs for Android using the free Android SDK (Software Developer Kit). Android programs are written in Java and run through Google's " Dalvik" virtual machine, which is optimized for mobile devices. Users can download Android " apps" from the online Android Market.

Since several manufacturers make Android-based phones, it is not always easy to tell if a phone is running the Android operating system. If you are unsure what operating system a phone uses, you can often find the system information by selecting " About" in the Settings menu. The name " Android" comes from the term android, which refers to a robot designed to look and act like a human.

iOS- iOS is a mobile operating system developed by Apple. It was originally named the iPhone OS, but was renamed to the iOS in June, 2009. The iOS currently runs on the iPhone, iPod touch, and iPad. Like modern desktop operating systems, iOS uses a graphical user interface, or GUI. However, since it is a mobile operating system, iOS is designed around touchscreen input, rather than a keyboard and mouse. For example, applications, or “apps,” can be opened by a single tap, rather than a double-click. Different screens can be viewed by swiping your finger across the screen, rather than clicking on open windows. Since iOS is designed to be simple and easy to use, it does not include several features found in a traditional operating system.

For example, you cannot manage files and folders like you can in Mac OS X or Windows. You also have limited access to iOS system settings. Instead of modifying application preferences from within each program, most settings need to be adjusted within the Settings app. Additionally, while you can run multiple programs at once, you can only view one open program at a time. While Apple’s iOS provides a more basic user interface than Mac OS X, each new version adds more features. For example, iOS 2 provided access to the App Store, which allowed users to download and install third-party apps on their iPhones. iOS 3 added copy and paste functionality and iPad support. iOS 4 was the first version to support multitasking and added the GameCenter feature. iOS 5 introduced the Siri voice assistant (only available on the iPhone 4S), and provided new cloud connectivity features.

Computer Aided Instruction- refers to the use of computers for education and training.

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Operating System- is a set of software that manages computer hardware resources and provides common services for computer programs. The operating system is a vital component of the system software in a computer system. Application programs require an operating system to function.

Chapter 2

REVIEW OF RELATED LITERATURE AND STUDIES

This chapter discusses the related information that are essential to the study. It tackled the gathered findings which support the project.

Related Literature

Local Literature

UPopenUniversity

The UPOU will offer courses on distance education starting the first semester of June 2006-2007. The courses will help build the capacity of higher education institutions in developing and offering programs by distance education and technology-supported distributed learning.

“ They will focus on the following management of distance education programs in various contexts, processes involved in the management of distance education programs, principles in distance learning environment, and application of technological innovations to enhance teaching and learning.”(Felix Librero, 2006)

The study “ Development of Dynamic Web-based learning support Linux openSUSE, Android & iOS with Simulation “ bases the UPOU as reference of

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content, this serves as our tip in constructing the structure of the system by examining the aspect and variety of perspective.

“ Use their knowledge of theories, models, and principles of open learning and distance between education to critically examine various aspects of DE programs from a variety of perspectives”(Dean Nemah Hermosa, 2006).

“ Contribute to the body of knowledge regarding open learning and distance education by conducting research and evaluation studies, and through materials, course, and program development”(Dean Nemah Hermosa, 2006).

Foreign Literature

This article summarizes the overall mean effect size was 0.147, a small positive effect in favor of distance education. Effect sizes were more positive for interactive distance education programs that combine an individualized approach with traditional classroom instruction. Programs including instruction delivered through telecommunications, enhancement of classroom learning, short duration, and small groups yielded larger effect sizes than programs using videoconferencing, primary education for all academic content areas except foreign language resulted in positive effect sizes. This synthesis supports the use of interactive distance education to complement, enhance, and expand education options because distance education can be expected to result in achievement at least comparable to traditional instruction in most academic circumstances.

“ A quantitative synthesis of studies of effectiveness of interactive distance education using videoconferencing and telecommunications for K-12

academic achievement, effect sizes for 19 experimental and quad-experimental studies including 929 students participants were analyzed across sample characteristics, study methods, learning environment, learner attributes, and technological characteristics.”(Robert Williams, 2005)

In today’s education climate, use of current technology becomes increasingly critical in schools for several reasons. Schools that are able to demonstrate innovative educational strategies using technology are at a distinct advantage in attracting and keeping top students, and in earning further funding through grants, endowments, and programs. Of course, having technology does not ensure effective use of the tools, and therefore may not translate into education benefits.

“ Between 1989 and 1996, the number of instructional computers in schools increased over 200% and by 1997, the number of schools with Internet access had reached 70%” (Software Publishers Association, 2).

Schools are pressured by their communities to show that the investment is paying dividends in educational achievement. Educational administrators and decision-makers are challenged with providing increased educational opportunities without increased budgets. Many educators are responding to this challenge by developing distance learning projects driven by demand for time and place independence and by economic issues.

“ As of 1995, 60% of all personal computers in K-12 schools were networked to another computer. Half of all school districts were using distance learning in the business of observation, academic modules and credit courses.”(CCA Consulting, 2006)

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Related Studies

Local Studies

Most distance education systems today provide students with a limited experience of the lecture they are viewing. In this paper, we describe the features of the Enhanced Viewer Experience System (EVES), a distance education tool that enhances students learning experience by supporting the creation and playback of multiple synchronized time-indexed information streams, such as slide sequences, topic indices, transcripts, snapshots, and notes, together with the video of the lecture.

“ Lead in designing, developing and delivering distance education programs that are underpinned by effective pedagogy and appropriate and sustainable use of technology.”(Luisa A. Gelisan, 2006)

“ By providing access to such multiple time-indexed streams, we hope to enhance the experience of eLearning students and thus improve their learning and information revention, In this paper, we describe how we took an earlier version of EVES develop at the Massachusetts Institute of Technology(MIT) and added many new features. Our new version has been demonstrated to, and well-received by, Singapore-MIT Alliance (SMA) faculty. At present, we are beta testing the lecture viewer on lecture classes at Ateneo de Manila University. We hope to be able to use the software during some of SMA’s distance education classes this year. We are also open to allowing others in the Philippine eLearning community to use our software for their classes.”(Luisa A. Gelisan, 2006)

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“ Lead in managing distance education programs in different contexts educational, business and non-profit organizations to meet the needs of target learners.”(Dean Nemah Hermosa, 2006)

Foreign Studies

Distance learning applied physical technology and education process to serve the needs of students when they are removed from the source of instruction and resources by either time or distance.

“ As with most instructional tools, the purpose of distance learning is to help schools meet the instructional needs of their students and to enable students to access information more effectively and apply what they learn in school to the world in which they live.”(ESN, 2006)

“ Distance education is characterized by physical separation of learners from the information, an organized instructional program, use of technological media, and two-way communication.”(Heinich, Molenda, & Russell, 2006)

Relevance of Related Literature and Studies to Present Study

The above literature stated by Librero, Hermosa and Williams and studies conducted by Gelisan, Hermosa, Heinich, Molenda and Russell are related to the proponents study because these literature and studies are concerned with the Computer Aided Instruction. Both are related in making the researchers came up with the idea of what will be the system looks like because of the rules that the researchers will follow. The related literature emphasized the rules of the making a system, interesting, surprising and mystery to make it easy to understand.

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Chapter 3

METHODS OF RESEARCH AND SYSTEM DESIGN

This deals with methods of research used and methods used in developing the system design. Together with the research methods, the data gathering instruments and analytical tools as well as the methods used to evaluate the developed software will be discussed.

Methods of Research Used

The methods of research are essential to make the proposed system possible. It will provide the appropriate research method used, which should be utilized to obtain necessary information regarding the feasibility that will be easily understood and will be useful especially to the proponents.

The Descriptive Method

This method is not just data gathering but it is characterized as fact-finding with adequate interpretation. The proponents used this method to clearly define the needed requirements and procedures in the study. It will help in concentrating more on the details and advantages as well as it would provide a strong foundation for the implementation of the proposed system. The proponents used the following methods of research for the completion of the objective of the study.

- Library Research Method

This method is a systematic research for facts. It is done in a library by studying and analyzing available books, resources and other materials found that is needed to help the proponents in providing more data for related <https://assignbuster.com/foreign-and-local-related-literature-essay-sample/>

literature and studies as well as knowledge regarding the subject matter which will serve as a blue print in making the study.

- Research Survey Method

The proponents used this method to focus the attention on the most important things needed and to know what the user really prefer in the proposed study. In conducting the research survey the proponents' understanding were stimulated by the target users giving them other options which would help them and make the proposed system more interesting especially to the target users.

- Creative Research Method

The creative research method employs basically the implicit and stylistic approach in an analysis of human experience. Their objectives are beauty and at the same time, truth. This method stimulates the creative thinking and imagination of the proponents. The proponents used this method to attain the objective of the proposed study which is to provide entertainment and enjoyment to the prospective users. This method would help the proponents, which could enhance their imaginative and artistic style that could be appealing in the users' eyes.

- Prognostic Research Method

This type of research was employed by the proponents to predict the future operation of factors under investigation, so that certain things that must be done may be controlled more intelligently on the occurrence over a definitely selected period of time. And apply appropriate remedies for problems and <https://assignbuster.com/foreign-and-local-related-literature-essay-sample/>

unfavorable situations. This is used to determine the performance of the proposed system if it is technically and operationally feasible.

Data Gathering Instruments

The gathering of data plays an essential role in any research study. Data can be found in documents and reading materials, whether online or hardcopies, seen through different views and interpretations. In the gathering of data, one must choose the most appropriate and useful means that is best suited for the research.

Observation, The observation is a scientific examination and recording of facts. The proponents make their own observation which is considered to be the most direct approach of studying people. In this manner the proponents formulated their ideas to be able to develop and improve the software. The proponents went to different places, especially computer shops and video game shops to observe the mass of people who likes to play computer games a draw out from this observation the needs and wants of the players or users.

Questionnaire, The questionnaire is a written type of gathering data; in which list of questions related to the study is presented to the respondents. This method is used in order for the proponents to know the things that would help them to the development of the proposed system.

Questionnaire - Part 1 on the questionnaire is the survey proper. Each testing was given one set of five checkboxes. The five checkboxes were categorized as: 5 - Strongly Agree

4 – Agree

3 – Neutral

2 – Disagree

1 – Strongly disagree

Part 2 of the questionnaire is system testing – a checklist obtained by the software's and hardware's level of compliance for System Requirement Specification presented five kinds of testing. Each testing was given one set of three checkboxes. The three checkboxes were categorized as:

Part 3 is the usability testing – a checklist for user to know the quality of the software. It was presented with five software quality criteria. Each software quality was given one set of five checkboxes. The five checkboxes criteria are:

Analytical Tools

Analytical tools are methods used in developing the proposed system. It is a technique to have an accurate, efficient and productive study. These tools guide the proponents in designing and determining the essential feature of the entire flow of the system.

Visual Table of Content (VTOC), (See Appendix C) The Visual Table of Content is a chart that shows the hierarchy in which level of details increase from the top of the chart to the bottom, moving from general to specific. It serves as a guide in making the main menus and the submenus. This helps manipulate information to every submenu, which has the function in the

main menu. VTOC is graphed according to the triggered changes in the program.

Program Flowchart, (See Appendix B) Defined as a type of flowchart that includes a graphical representation of controls in a program within a system. The flowchart helps the reader visualize what is going on the system and thereby help the viewer to understand the process, and perhaps also find errors, bottleneck, and other features within the system.

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Methods Used in Developing the Software

This is the part where the developers were able to determine and explain their software model used in the entire project. In this chapter the software model used in developing the software were discussed.

Requirement Analysis and Definition

The proponents determine the requirements of the proposed system and these would be directly translated into an operational model. These requirements are analyzed for their validity, and the possibility of incorporating the requirements in the system to be developed is also studied. Finally, a requirement specification document is created which

serves the purpose of guideline for the next phase of the model. System and Software Design

The proponents made sample screen design. The proponents saved time during the program coding because the designs were made beforehand. It should not serve as a total replacement to the previous system but as an enhancement of its presentation, features, and capabilities.

Implementation and Unit Testing

This enhances the opportunity of users to enjoy and be entertained with the features rendered by the proposed system entitled “ Development of Dynamic Web-based learning support Linux openSUSE, Android & iOS with Simulation.”

Integration and System Testing

During This stage the proponents will need to test the developed software in order to find bugs or errors. Testing the developed software also helps in knowing the efficiency and reliability of the software to meet the expectations of the target users.

Operations & Maintenance

This phase of the waterfall model is virtually a never-ending phase. Generally, problems with the system developed come up after its practical use starts, so the issues related to the system are solved after deployment of the system. Not all the problems come into picture directly but they arise

from time to time and need to be solved; hence this process is referred to as maintenance. [pic]

Figure 2: Waterfall Method

Figure 2 shows Waterfall Method, it was used by the proponent in the developing the proposed software. This method is important is important in the development of the software completion because these are the procedures that would help the software development.

Justification of the Method Used

The proponents have refined the scientific method into a logical strategy that could be applied to many kinds of problems. The proponents used Waterfall Method to show the course of the project development and to ensure a practice and orderly process. This part of the study is concerned with the actual development and design for the logic flow of the data to which the software's main design would be based.

This method used in developing the proposed software is appropriate in gathering and analyzing the necessary data and information for the software completion. This method was used because of its accurate result and precision. This method applied on the study was also proven to be the best developing with less time. The proposed system needs a programming language namely php which is capable of creation an interface that is user friendly and could be able to be accurately process.

Analysis Used for Product Evaluation

Feasibility of the study is important in every project done. The proponents defined the various standards and criteria evaluating the software product. They have to prove that the new system is technically and operationally feasible.

Technical Feasibility

This method is a careful and precise study on the requirement specification to ensure compliance to all the needed resources to develop and implement the proposed system. The availability of the hardware specification should be identified with proposed software if it is technically feasible or not. We should take into consideration the compatibility of the hardware, software and the target users.

Operational Feasibility

This method is used to determine the reliability, portability, efficiency, accuracy, error handling, robustness, security and user-friendliness of the proposed system. Implementing the proposed system would prove to be feasible based on the criteria that includes.

Correctness, Refers to the extent to which a program satisfies its specification and fulfills the user's objective. Reliability, An attribute of any system that consistently produces the same results, preferably meeting or exceeding its specifications. Efficiency, Ability to do a complex job without much visible effort and with speed it also an effectiveness and quality of performance in certain operations. Testability, Referred as the effort required testing the program to ensure the program performs its intended functions.

Portability, Referred as the effort required to transfer the program from one hardware and / or software system environment to another.