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**STUDENTS' ATTITUDE TOWARDS E-LEARNING IN RELATION TO THEIR  
LEARNING STYLES AND ACADEMIC PERFORMANCE.**

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**Abstract**

This study aimed to identify the students' attitude towards e-learning in relation to their learning styles and academic performance. The school covered in this study was Foundation Preparatory Academy High School Department. There were 410 students from grades 7 to grade 11 who served as the respondents to this study. It utilized percentage, frequency, mean, weighted mean, chi-square and Spearman Rank Correlation Coefficient as statistical tools. Majority of the students were 17 years old. There were equal numbers of male and female students. Most of the students had been using their iPad for only 1 year. Most of the parents' monthly income is between 6,000 to 10,999. Lastly, majority of the parents have studied college or college graduate. Based on the results, students had a "positive" attitude towards e-learning. Meanwhile, majority of them were Visual Learners. Moreover, most of them got a "Very Satisfactory" Grade during their First grading. On the Second and Third Grading most of them got an "Outstanding" grades and none of them received grades lower than 75% on the third grading. There is a significant relationship between the students' academic performance and their attitude towards e-learning. There is a significant relationship between the students profile like sex and number of years in using iPad and their attitude towards e-learning. Likewise, there is a significant relationship between the monthly income of parents and number of years using iPad and their learning styles. In general, there is a significant relationship between the students' attitude towards e-learning and their academic performance.

***Keywords:*** e-learning, learning styles, students' attitude, academic performance

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## **Chapter I**

### **The Problem and Its Scope**

#### **Introduction**

The advent of the Digital Age and rapid changing world highlight the influence and impact of technology in all aspects of learning. Moreover, the need for information and demand on education increased relatively in the society as technology is playing quickly and progressively an effective role in the world. It affects education as well and people's expectation on being independent from time and place restrictions. The significance of technology in students' learning and teacher education is well acknowledged. Literature supports some evidence of the impact of using Information and Communication Technologies (ICT) in education. E-learning gives a completely different learning environment for students and teachers, hence requiring a different set of skill to be successful.

E-learning can be perceived as computer assisted learning, and as pedagogy for student-centered and collaborative learning. Early advances in E-learning focused on computer assisted learning where part or all of the learning content is delivered digitally. More recently, the pedagogical feature of e-learning has become prominent. E-learning includes all forms of electronically supported learning and teaching. The information and communication systems, whether networked learning or not, serve as specific media to implement the learning process. E-learning often supplements or replaces traditional methods, enabling students to engage with their learning through various web technologies alongside or instead of face-to-face delivery.

The integration of E-learning into education can catalyze the shift toward applying adult learning theory, where educators will no longer serve mainly as the suppliers of content, but will become more involved as facilitators of learning and assessors of competency. Providing a flexible and responsive learning experience commonly requires the involvement of modern information and communication technologies (ICTs) to access to unceasing professional development practices in today's fast mobile work place environment. E-learning offers flexibility of time and place which allows higher education institutions and their student to deliver or receive learning materials in a more flexible manner.

Studies revealed that faculty, administrators, and learners find that multimedia e-learning enhances both teaching and learning. This advantage can be categorized as targeting either learning delivery or learning enhancement. Learning delivery is the most often cited advantage of E-learning and includes increased accessibility to information, ease in updating content, personalized instruction, ease of distribution, standardization of content, and accountability.

Updating electronic content is easier than updating printed material. Thus, e-learning technologies allow educators to revise their content simply and quickly. Learners have control over the content, learning sequence, pace of learning, time, and, often, allows them to tailor their experience to objective. An additional strength of e-learning is that it standardizes course content and delivery unlike, for instance, a lecture given to separate sections of the same course. Automated tracking and reporting of learners' activities lessen faculty administrative burden. E-learning technologies offer educators a new paradigm based on adult learning theory which states that adults learn by relating new learning to past experiences, by linking learning to specific needs, and by practically applying learning, resulting in more effective and efficient learning experiences. The researcher believes that by enabling learners to be more active participants, a well-designed E-learning experience can motivate them to become more engaged with the content. Interactive learning shifts the focus from a passive, teacher-centered model to one that is active and learner centered, offering a stronger learning stimulus. Interactivity helps to maintain the learner's interest and provides a means for individual practice and reinforcement.

E-learning has already influenced the field of teaching, training and development. A growing number of primary and secondary courses are delivered over the web and are increasing student numbers. Many directors of corporate training believe that web-based learning is the future method for their training programs. However, the field lacks enough documentation to show that E-learning is an effective delivery mechanism in relation to the individuals being taught. For example, research on learning styles has consistently shown that considering personality attribute in preparing and delivering instruction can significantly improve the learning process.

A purpose for studying students' attitudes toward electronic learning is that they might reflect the learners' subsequent use of the technology ( Bishop 2006). There are other factors that could affect the learners' attitude such as goals, beliefs, or values. For example, if participating in a certain iPad-based activity meets the learners' goals and needs, this might increase the learners' positive attitude toward iPad usage. The interaction between the learner and the electronic learning context is defined by hierarchical satisfaction. Consequently, the learners who feel secure and meet his or her primary and higher needs would have a better attitude towards the process and it would increase his or her e-learning participation. On the other hand, the learner who doesn't have his or her lower or primary needs met would likely not participate in electronic learning activities because of the negative attitude towards the technology (Bishop, 2006).

When learners have either positive or negative attitudes towards a new technology, these attitudes directly affect behavior and therefore the use of the technology, no matter the technology's level of advancement is still contributive to the teaching-learning process (Liaw, Huang, and Chen, 2007).

This research empirically investigated the students' attitude towards e-learning in relation to their learning styles and academic performance. In addition, this study attempted to provide evidence that e-learning is more effective for those with a particular learning style. The results of this study helped determine the development needs of Foundation Preparatory Academy on the meaningful use of its iPad Program. This also served as basis in identifying iPad applications that cater the learning styles of the Foundation Preparatory Academy High School Students.

### **Theoretical Background of the Study**

This study was anchored on e-Learning Acceptance Model (ELAM), based on the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh, et. al. (2003). Technology Acceptance Model such as Unified Theory of Acceptance Use of Technology (UTAUT) tries to explain the degree of acceptance of the use of information technology. The theory assessed whether the user was able to accept the new technologies and user's ability to deal with it. The Technology Acceptance Model helps educators and curriculum makers and designers to assess the success of the use of technology to the academe, and motivate the end users to accept the systems.

e-Learning Acceptance Model (ELAM) is based on UTAUT was formulated by Venkatesh et al (2003) which consists of four main concepts, Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions. These four main concepts are independent variables which influence the dependent variables namely: behavioral/attitude and usage, gender, age, experience, and volunteers of system use have indirectly influenced the dependent variables via the four main concepts. Behavioral intention is seen as a critical predictor of technology use (Venkatesh et al., 2003).

Further, e-Learning Acceptance Model (ELAM) identifies the key factors in acceptance of e-learning as measured by behavioral intention to use the technology and actual usage. Performance expectancy is based on beliefs about perceived usefulness, interactivity and flexibility. Effort expectancy is based on beliefs about ease of learning, perceived ease of use and self-efficacy. Social influence is based on subjective norm and image. In private educational institutions like Foundation University, the support to get the infrastructure and

determine policies as well as institutional support play crucial role in the acceptance of e-learning in the school system. Thus, the model includes facilitating conditions as one of the determinants of e-learning acceptance. The following factors are included in this variable: reliable infrastructure- the total condition of the learning environment which internet connectivity is the most significant aspect, institutional policies , training and support to the students and teachers as primary end users. As e-learning is associated with individualization of the teaching-learning process, the learning style of the student is an important factor affecting the adoption process. These factors are considered as mediators affecting the relation between performance expectancy beliefs and behavioral intention to use e-learning.

## **The Problem**

### **Statement of the Problem**

This study aimed to determine the students' attitude towards e-learning in relation to their learning styles and academic performance.

Specifically, it sought to answer the following problems:

1. What is the profile of the students in terms of:
  - 1.1 age;
  - 1.2 sex;
  - 1.3 years of experience in using iPad;
  - 1.4 parents monthly income; and
  - 1.5 educational attainment of parents?
2. What is the students' attitude toward electronic learning?
3. What are the students' learning styles?
4. What is the students' academic performance?
5. Is there a significant relationship between the students' attitude toward electronic learning and their learning styles?
6. Is there a significant relationship between the academic performance of the students and their:
  - 6.1 attitude towards electronic learning; and
  - 6.2 learning styles?
7. Is there a significant relationship between the students' profile and their
  - 7.1 attitude towards electronic learning; and
  - 7.2 learning styles?

### Statement of the Null Hypothesis

- Ho1.** There is no significant relationship between the students' attitude toward electronic learning and their learning styles?
- Ho2.** There is no significant relationship between the academic performance of the students and their:
1. attitude towards electronic learning; and
  2. learning styles
- Ho3.** There is no significant relationship between the students' profile and their
1. attitude towards electronic learning; and
  2. learning styles

### Significance of the Study

The findings of this study may benefit the following group:

**School Administrator.** This may help the school administrators in formulating training design that will assist teachers in FPA on how to enhance their capabilities on the use of different interactive applications in the Ipad and in redesigning the existing e-books.

**Teachers.** First of all, the findings of the study may provide an idea to the teachers about the e-learning aspects, learning styles and academic performance of the FPA students. This would guide the teachers in identifying the effective instructional strategies to employ in teaching different learning areas, to increase students' understanding and at the same manner to improve students' performance. They would be able to recognize the different learning styles of their students and how the e-learning tool particularly the e-book will help improve the academic performance of their respective learners. This would also serve as their basis in enhancing their existing e-books.

**Parents.** The result of this study would help the parents to actively extend their involvement on the proper use of Ipad at home. They have strong influence on the attitudes of their children towards electronic learning.

### Research Methodology

**Research Design.** The researcher used the Descriptive method. This was used to get the students' attitude towards e-learning in relation to their learning styles and academic performance. All the data gathered was presented through tables and was interpreted for a better understanding of the readers.

**Research Environment.** The study was conducted in Foundation Preparatory Academy (FPA) of Foundation University Dumaguete City. This is a private university and managed by the Sinco Family. The school is a non-stock and non-sectarian institution. FPA is using the K to 12 Curriculum and offered all the tracks and strands of the K to 12 program. The school is located at Dr. V. Locsin Street, Taclobo Dumaguete City. The total population of Foundation Preparatory Academy high school is 630 and 43 teachers. FPA Fully implemented the Ipad program from grades 4 to 11 or senior high school. FPA high school classrooms are fully equipped with Apple TV and fully air-conditioned. The superintendent, principal and two head teachers lead FPA.

**Research Respondents.** The respondents of the study were the Grades 7-11 students. These students are currently using iPads. The researcher used the total population of Foundation Preparatory Academy High school department. Only students who had complete grades for the First to Third Grading period were included in this study. The distributions of the respondents are as follows:

Grade Level	No. of Respondents
VII	41
VIII	41
IX	44
X	47
XI	<u>237</u>
<b>Total</b>	<b>410</b>

**Research Instruments.** The major tool that was used in this study was a questionnaire. The questionnaire was a modified tool designed in getting the of students' attitude towards E-learning. The online sources were used in identifying the students' learning styles. The two parts (II and III) of the questionnaire are open sources /open to the public. The questionnaire is adopted from expert researchers. For part II, this was Adopted from *Alabdullaziz, N, Alanazy,, Alyahya, S e.t al. of the University of Northern Colorado*. Part III was adopted from *Barbara A. Soloman and Richard M. Felder* of North Carolina State University.

Prior to the preparation of the instrument, the researcher had read books, magazines, articles, and other related materials relevant to the study at hand. Pieces of intelligent advice and suggestions from experts and resource persons were obtained regarding the items to be included in the questionnaire to ensure content validity. To guarantee validity of the questionnaire, the researcher

consulted a panel of experts and afterwards conducted a dry run to find out if the items were valid. The Cronbach's alpha test value was calculated to verify the internal consistency reliability coefficient of the items. The students' attitude towards e-learning on self-paced learning result is 0.774, e-learning as effective environment result is 0.811, e-learning as multimedia instruction environment result is 0.786, e-learning as an instructor-led learning environment result is 0.792, e-learning as perceived enjoyment result is 0.785, e-learning as perceived usefulness result is 0.766. The overall reliability coefficient result is 0.909. This means that all items included in the questionnaire were valid.

### Summary of Findings

From the data gathered, the following findings are presented:

#### 1. Profile of the Respondents

- a. Age. Out of 410 respondents, 43.42% or 178 students were aging 17  
3.2.1. years old.
- b. Sex. Based on the data gathered, 50% were male and 50% were female.
- c. Number of years using iPad. Around 64.15% or 263 of the respondents used an iPad for 1 year.
- d. Parents' monthly income. It was found out that 105 or 25.61% of the parents had a monthly income of 6,000 to 10,999. Only 63 or 15.17% of the parents earned the highest amount of 31,000 and above.
- e. Parents' educational attainment. Most of the parents (both father and mother) which is 61.96% have studied College or a college graduate, while only 3.90% were elementary level or graduate.

#### 2. Students' Attitude Towards e-learning

Students have shown "very positive" attitude towards e-learning on the following area: Perceived enjoyment and usefulness with 4.25 weighted mean and "positive" attitude towards e-learning on: self-paced learning environment, effective learning environment, multimedia instruction environment and instructor-led learning environment with the weighted mean 3.99, 3.87, 4.20 and 3.94 respectively.

#### 3. Students' Learning Styles

Out of 410 respondents, 134 or 32.68% of the students were Visual learners, 28.54% were Sensing learners and only 1.22% are Verbal learners.



#### 4. Students' academic performance

The academic performance of the FPA students for the following:

- a. First Grading. There were 42.20% of the students who got a very satisfactory (85%-89%), 32.44% or 198 students received 90% -100% or outstanding and there were 2.44% or 10 students who got a grade below 75% or did not meet expectations.
- b. Second Grading. Most of the respondents were outstanding (90%-100%) with 48.29% or 198 students, 34.88% were very satisfactory and only 0.73% or 3 respondents got below 75% which did not meet the expectations.
- c. Third Grading. There were 44.63% or 183 of the students performed outstanding (90%-100%), 37.56% were very satisfactory, 1.71% or 7 of the students were fairly satisfactory and none of the students did not meet expectations on the third grading.

#### 5. Significant relationship between the students' attitude toward electronic learning and their learning styles

There is no significant relationship between the students' attitude towards e-learning and their learning styles. The computed value of  $X^2$  (7.76) is less than the tabular value of  $X^2$  (14.067).

#### 6. Significant relationship between the academic performance of the students and their:

- a. Attitude towards electronic learning. The following area was considered significantly related to the academic performance of the students: e-learning as a self-paced learning environment, e-learning as a multimedia instructional environment and perceived usefulness.
- b. Learning styles. There is no significant relationship between the academic performance and their learning styles. The value of computed  $X^2$  is less than the tabular value.

#### 7. Significant relationship between the students' profile and their:

- a. Attitude towards electronic learning. Considering the sex of the respondents, the relationship was considered moderate since the computed value is positive. The female respondents have better attitude than the male respondents. Furthermore, there was a relationship between the number of years in using iPad and their attitude towards e-learning.
- b. Learning styles. There was a significant relationship between the students' profile like number of years in using iPad and parents' monthly and their learning styles.

## **Conclusions**

Based on the findings cited above, the following conclusions are hereby drawn:

1. Majority of the students in Foundation Preparatory Academy are 17 years old. There were equal numbers of male and female students. Most of the students had been using their iPad for only 1 year. Most of the parents' monthly income is between 6,000 to 10,999. Lastly, majority of the parents have studied college or college graduate.
2. Students have shown "very positive" attitude towards e-learning on the perceived usefulness and enjoyment, while they have "positive" attitude on the areas like e-learning as self-paced, as effective learning environment, as multimedia instruction environment and as instructor – led learning.
3. Majority of the students in FPA are Visual Learners.
4. Most of the students got a "Very Satisfactory" Grade during their First grading. On the Second and Third Grading, most of them got an "Outstanding" grades and none of them received grades lower than 75%.
5. There is no significant relationship between the students' attitude towards e-learning and their learning styles. The two variables are independent.
6. There is a significant relationship between the students' academic performance and their attitude towards e-learning. While, there is no significant relationship between the academic performance of the respondents and their learning styles.
7. There is a significant relationship between the students' profile like sex and number of years in using iPad and their attitude towards e-learning. Likewise, there was a significant relationship between the monthly income of parents and number of years using iPad and their learning styles.

In general, there is a significant relationship between the students' attitude towards e-learning and their academic performance.

## **Recommendations**

In the findings of this study and the conclusions drawn, the following recommendations are suggested:

1. Teachers need to be equipped with in-service training programs on e-learning technology. To emphasize e-learning awareness, it is recommended that professional development programs on e-learning should be initiated by

the IT personnel so as to allow teachers improve skills and knowledge. Short term and long training may include:

- a. Seminar/workshop facilitated by experts in e-learning program's development and management from institutions that have broad as well as intensive experience in e-learning practice. Training can be conducted in phases beginning with technical staff particularly on aspects related to supporting students and staff in using the system as well as system installation, operation, maintenance, repair, administration, and security.
  - b. Training can further be extended to teachers, and can focus on how to convert content to an electronic format, familiarity with different functions of an e-learning platform including how to facilitate learning and support learners in the learning platform. This can be supplemented by scheduled individual consultations follow-ups to monitor progress.
2. Furthermore, it is recommended that the administration and FPA heads must strengthen factors that lead to positive attitude and work out factors that lead to negative attitudes. For example, trainings alone can be meaningless if teachers are not equipped with tools and skills in manipulating highly-advanced technology.

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