

## Student Experience of Using E-learning Technologies in their studies in the National University of Samoa



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### ABSTRACT

This paper is based on the findings from a pilot study on the student's and their experiences with the using of E-learning Technology in their higher education studies. The increasingly used of E-learning technologies in Higher Education captured the interest of how students in Samoa experience these technologies in their Education. A questionnaire survey was carried out randomly to a sample of students present on campus of the National University of Samoa at the time. A total of 202 students were available to complete these questionnaires. The results were obtained and extracted to a specific software which were then analysed and interpreted. The findings predicted that the students are engaged in an effective e-learning environment and that they are choosing the appropriate e-learning methods to pursue their learning needs. The study revealed that there is an effective impact of technology on the students and how technology assists them with the activities in their studies. The findings also show a profound impact on the University and its E-learning technology system designed to support the students. Students agreed that E-learning is an important element in their studies but it also needs further development.

**Keywords:** E-learning, Higher Education, Technology, ICT

### 1. INTRODUCTION

E-learning Technologies has long existed since the 1960's but was not well known until the 1990s due to the popularity of the web and internet technologies. Digital media have enriched the teaching and learning experiences and have become commonplace with university [1] [2]. Universities play a vital role in enhancing technology in society. They link the local and the global [3]. Samoa has two higher institutions catering for undergraduate student's education at the moment. The number of the student intake

increases every semester [4] and the use of E-learning is growing rapidly. In the past years the National University of Samoa have been finding strategies to utilize new technologies to improve teaching and learning. A commonly cited obstacle to ICT integration is the lack of teachers' content technology and pedagogical knowledge [5]. Both lecturers and teachers need professional trainings in using e-learning technologies. Over the years, e-learning has been further developed and utilized. Though, we predicted positive results generally, the university needs feedback from these students to determine its progress currently. This is the reason why this study is being conducted, so that we can see the impact of E-learning technologies on the learners.

Classroom teaching has always been a common method of teaching and learning. It is still a sole method of learning in countries where computer technology cannot be accessed. E-learning introduces the concept of learning at anywhere, anytime. This is carried out by the using of a medium of devices such as included audio tapes, video tapes and CDs. These were somehow very popular e-learning technologies before the Internet technology became popular. Even, now it is still used but in forms that can be used on the computer. E.g. DVDs, audio files and media files. Most courses in University are using these devices to enhance learning in the classrooms like the National University of Samoa. This introduces the method of Blended Learning. . Blended learning is used to describe learning that mixes various event-based activities, including face-to-face classrooms, live e-learning and self-paced instruction [6]. Computer and internet technologies attracted learners and students were interested in the using of these technologies, in fact improve their way of learning. Students not only learned more when online sessions were added to traditional courses, but student interaction and satisfaction improved as well [7]. In 2004, Virtual classrooms (Figure 1) were introduced where

only course notes in PowerPoint or Word are hosted. There were several improvements as years goes by such as chat rooms, student webmail's, forums and bulletin boards. These features has improved access to course notes and better communication between lectures and their students [8]. Further improvements of virtual classrooms were ongoing as trainings were provided for both lecturers and students. The only issue was the number of computers which caters for the increasing amount of students every year. This ongoing problem of limited resources is always present in developing countries such as Samoa. Video conferencing was also introduced providing an online Environment course in collaboration with other 7 university. The only problem was the connection. Video Conferencing needs a lot of bandwidth and there were bandwidth constraints during the process. They installed a 1mb satellite link a year later and it alleviated the problem. Now, they can offer more courses via VTC but usually after working hours to increase bandwidth usage. Internet technology is a very powerful tool today, Figure 2. Shows the internet progress in the last 10 years. With a small island like Samoa, people became attached to the use of this technology, though there were problems such as the speed and costs. In the year 2007, the technology called 3COM-Modem boost the speed of 56kbps up to 128kbps. In 2008, 3 ISP's in Samoa offers the DSL service and the IEEE 801.11b wireless service, with an office indoor speed of 2 to 5Mbps[8]. In May 2009, the introduction of optical fiber reached Samoa and the internet speed will be more than 40 times the current capacity in use in both Samoa's combined [9]. Without the internet most online materials will not be available to students for learning. E-learning technologies with multimedia aided materials plays a role for students in their studies. Numerous studies were conducted and found that 'learning was higher when information was presented via computer-based multimedia systems than traditional classroom lectures' [10]. These materials can be supplementary materials to assist not only the students but the lectures with their teaching loads. The availability of all these E-learning tools, methods and technologies initiate the idea of how students react towards these learning techniques. Their experience will help further development of E-learning in the future.

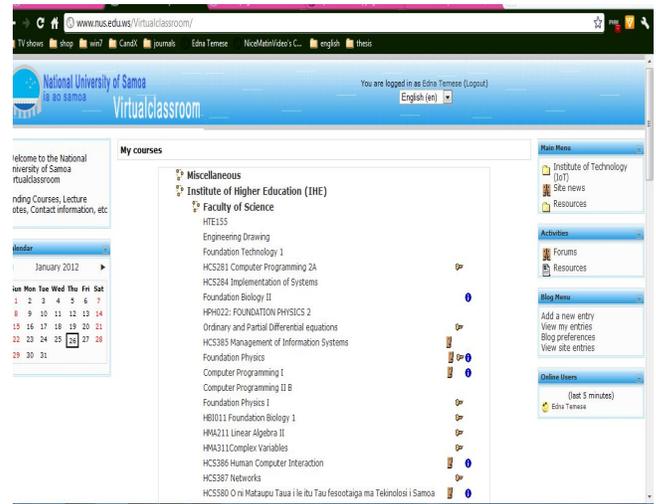


Figure 1: Virtual Classroom Feature

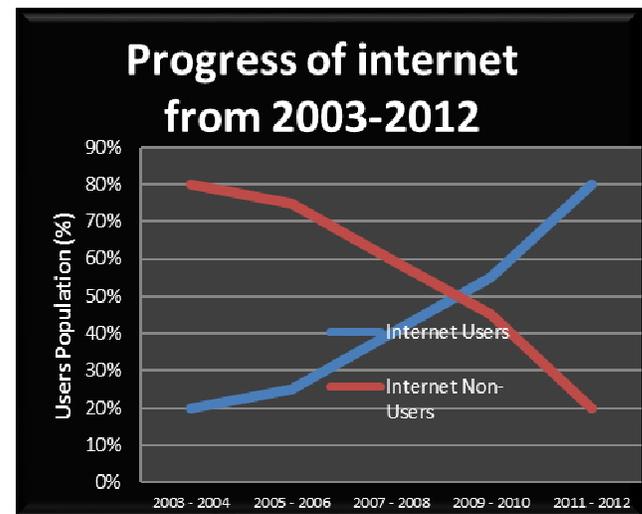


Figure 2: Progress of the Internet

## 2. METHODOLOGY

The methods and data collection was achieved by distributing quantitative questionnaires randomly to students on campus. These questionnaires are in 3 sections where

1. They were asked about basic information such as gender, program enrolled, where and what they're studying in school.
2. Table 1 shows a Likert scale format questionnaire regarding what kinds of e-learning technologies used in their studies, what activities they use it for and how often they use them.

3. Table 2 shows another set of Likert scale questions which analyzes the importance and the advantages of E-learning to their studies.
4. They were also asked about the kinds of specialized software used particular in their studies and in other aspects of their lives, for instance, the social network.

There were 202 questionnaires given out to those who can participate but only 200 responded. From these questionnaires, data was extracted and compiled into the Microsoft Excel software. Results were predicted according to charts filtered from this table of results

**Table 1.** Likert Scale Interpretation

Range	Interpretation
1	A little
2	Moderately
3	A lot

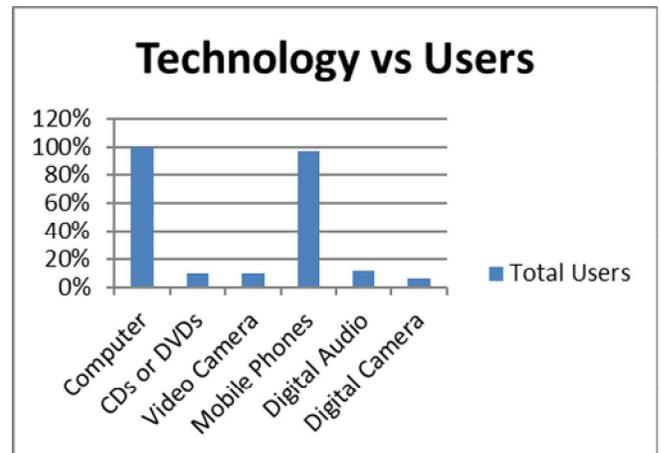
**Table 2.** Likert Scale Evaluation

1	Strongly Disagree
2	Disagree
3	Neither agree nor disagree
4	Agree
5	Strongly Agree
6	Not Applicable

### 3. RESULTS AND ANALYSIS

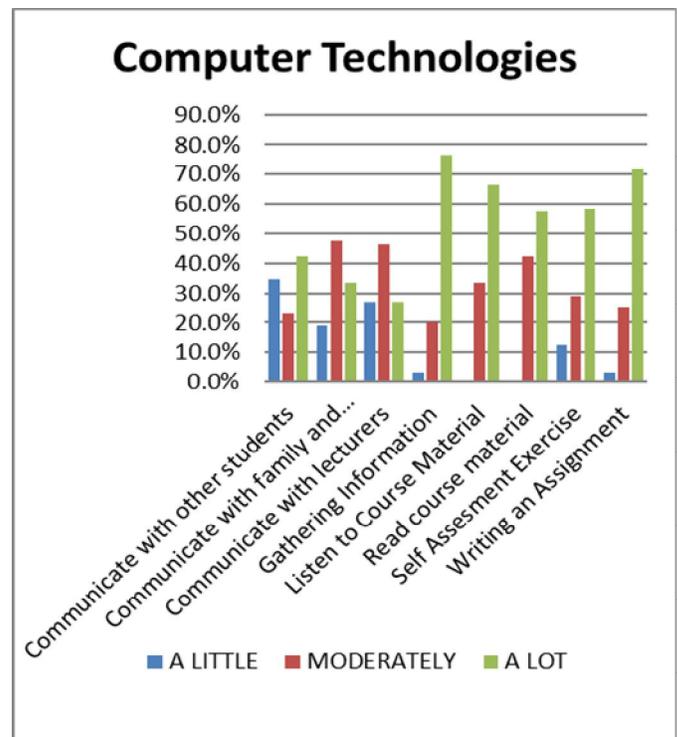
An analysis was carried out using the Microsoft Excel software extracting data into columns and rows using different formulas to produce promising results. Each answer was tallied and converted into percentage to clarify results according to its objective. Below is the analysis for the set of student's response to the survey. The E-learning Technologies that were predicted that they might be using were.

- Computer/Internet Technology
- CDS and DVD Technology
- Video Camera
- Mobile Phones
- Digital Audio
- Digital Cameras
- Others

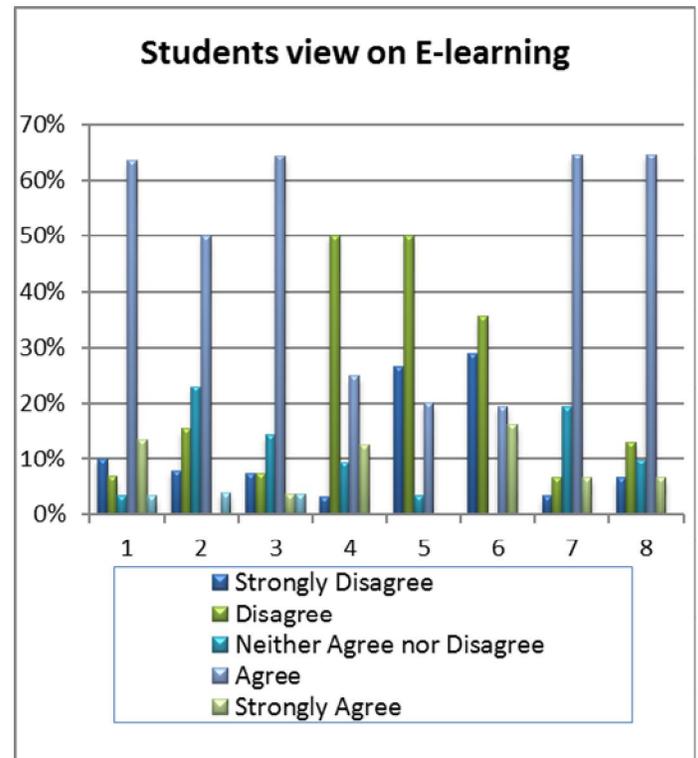
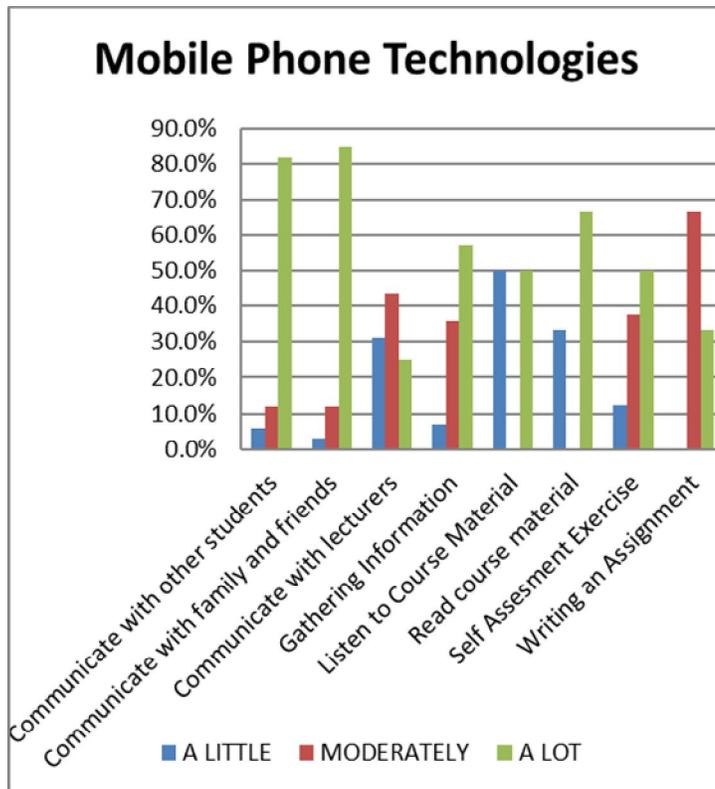


**Figure 3:** Users access to E-learning Technologies

Figure 3 indicates the Users access to these different Technologies. All of them have access to Computer Technology and around 95% uses Mobile Phones for Learning. There are only a few students who can access to others E-learning Technologies such as the CDS/DVDs and digital devices. Therefore, evaluation of the results will mostly focus on the how the students used the Computer and the Mobile Technologies, since they have access to these technologies for learning most of the time.



**Figure 4:** Computer Technologies and the Activities used for



**Figure 5:** Mobile Technologies and the Activities used for

Figure 3 and Figure 4 shows how often students used the Computer and Mobile Technologies in their Learning Activities. It seems, students used the computer technology a lot in activities such as Gathering Information, Listen and Read Course Materials, Self-Assessments and Writing Assignments. Most of the Reading and Course Materials are available in the Virtual Classrooms.

Devices such as mobile phone have grown to such an extent over recent years and are gradually replacing personal computers in modern professional and social context [11]. Ten years ago, only a few owned cellular phones but in the recent years, nearly everyone in the country has a phone and the number of phone subscribers is rapidly growing. The results indicates the popular usage of mobile phones for not only communication but accessing their course materials online.

1.	E-learning is an important element of my course
2.	Without E-learning I'm unable to study
3.	E-learning makes my course more enjoyable
4.	My university do not offer e-learning materials
5.	I find using computers difficult
6.	Internet connected computer access is a problem
7.	E-learning makes study easier for me
8.	It would be good if there were much more e-learning in my courses

**Figure 6.** Students view on E-learning

Figure 6 revealed an insight of what students experience on in the E-learning technologies in relation to their tertiary studies. According to their feedback 50-65% of the respondents agreed that E-learning is an important element in their studies, without it they can't study, E-learning makes their course more enjoyable, it makes their studies easier and it will be good if there was much more e-learning content in their courses. This shows an effective impact of E-learning on Students and their studies. 50% of the students do not find any difficulties in the using of Computers and Internet Access. 25% agreed that the University are not offering e-learning materials. It is assumed that these results may also be affected regarding the Programs these students enrolled in. There are several

Programs in the University that may not have e-learning materials available online. On the contrary, 50% agreed that there are e-learning materials offered by the University which is a high positive feedback.

#### 4. CONCLUSION

E-learning may be a new concept introduced to the Learning System in Samoa but the results indicates that educators and students have adapted quickly to these new technologies. The findings specifies that every student encounters an E-learning experience with any E-learning technology available especially the using of Computer and Mobile Technologies. This shows that the students are indeed engaged in an effective e-learning environment and are choosing the suitable e-learning technologies to assist them with their studies in university. The productive e-learning experience of the students reveals the positive developments of E-learning Technologies offered by the National University of Samoa.

Although this study shows promising results, technology and its fast paced developments can leave us one step behind. Therefore, there is still a need for frequent improvements in the e-learning technologies used and the materials installed for them.

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