Opportunities for a New Generation of E-Learning:
The Return of Moodle® to the Polytechnic of Namibia

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Abstract

For this project, we hoped to assist the Centre for Teaching and Learning at the Polytechnic of Namibia in promoting the use of the new e-learning software, Moodle®. From research and interviews, we determined the barriers of e-learning and how to overcome them. We developed promotional materials, held classroom presentations, and created video modules to teach new e-learning features to students. Through our promotional campaign and video modules, we increased e-learning awareness on campus and eased the transition to Moodle®.
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List of Acronyms

BCS – Bureau of Computer Services

CTL – Centre for Teaching and Learning

COLL – Centre for Open and Lifelong Learning

E-Learning – Electronic Learning

E-Portfolio – Electronic Portfolio

HOD – Head of Department

IT – Informational Technology

MBPS – Megabits Per-Second

PON – Polytechnic of Namibia

SMS – Short Message Service

SRC – Student Representative Council

UNAM – University of Namibia
Executive Summary

Introduction
Electronic learning, also known as e-learning, is the use of electronic devices such as cellphones, computers, software programs, or other technical equipment to assist traditional teaching methods. Modern countries, including European nations and the U.S., have used e-learning since its creation, but developing countries including Namibia, have just started to realize these benefits. The Polytechnic of Namibia (PON) recognizes the importance of technology-based education and is integrating a new e-learning program, Moodle®, into its course curriculum. However, this transition will not occur without obstacles. Students and lecturers are unfamiliar with the new software program and may have trouble learning how to use it. The Centre for Teaching and Learning (CTL) is the managing department of e-learning at the PON, where we conducted the work for our project.

The overall goal of this project was to ease the transition to the new e-learning program by focusing on the students’ needs. By creating engaging user-documentation, students would be able to understand how to use the new program and recognize its capabilities. We also aimed to promote and encourage the use of the e-learning system by students. Through our promotional campaign and user-documentation, we hoped to increase e-learning awareness on campus and ease the transition for students to the new e-learning software program.

Background
Research shows that e-learning is effective because it has the ability to reach a diverse range of learning styles, is easily accessible, cost effective, and efficient. According to Ruth Clark, former President of the International Society for Performance Improvement, e-learning promotes learning among different kinds of students because it enables students to visualize, listen, or use a combined audio-visual aid to comprehend the learning material (Clark, 2012). E-learning is easily accessed by both students and faculty because it is readily available wherever there are computers and internet access. Kevin Kruse, former Managing Director of Kenexa’s Learning Services Group, adds that e-learning reduces the costs of books, materials, and distribution costs (Kruse, 2002). The convenience of e-learning allows students to learn at their own pace because course materials are provided online (Mohd, 2010).

Moodle® is a free, open-source, learning and content management system (LCMS). This program is used “for the administration, documentation, tracking and reporting of training programs, classroom and online events, e-learning programs, and training content” (Ellis, 2009). Because Moodle® is an open-
source program, it gives users freedom to edit the program in order to adapt it to his or her needs. These factors, along with its variety of features and user-friendly interface, make it appealing to the Polytechnic of Namibia.

The shortcomings of Chisimba, the current e-learning system at the PON, have initiated the transition to Moodle®, which will take place in February 2013. The PON chose to switch to Moodle® because it is an open-source software that is free and allows for high customization. Unlike Chisimba, Moodle® is also compatible with external features such as Virtual Classroom and mobile devices.

There are many challenges associated with any type of e-learning transition. One of the main problems is that lecturers are hesitant to change. Lecturers do not want to devote time to learn an online system, when traditional methods have worked efficiently in the past. Faced with these problems, it was the goal of this project to promote e-learning use at the PON and create user-documentation to assist the transition to Moodle®.

Methods

In order to accomplish our goals of promoting e-learning and creating user-documentation, we set multiple objectives. The first objective was to conduct field research and initial interviews to better understand perceptions of Chisimba and expectations of the new e-learning program. We met with students, lecturers, staff from the CTL, staff from the Bureau of Computer Services (BCS), and the Vice Rector of the PON to better understand the background of e-learning at the PON.

Once we understood the e-learning platform at the PON, we were able to begin our next objective of creating user-documentation. We developed documentation in two forms, video modules and written instructions. The documentation targeted students and described various Moodle® features. We created the videos with auditory instructions and captions to ensure clarity. We made the videos more engaging by adding popular music to the background. The written documentation used systematic instructions to describe similar tasks displayed in the video modules. We developed written instructions for distribution throughout the PON campus and posted the video modules on YouTube. Both forms of documentation were available prior to Moodle® implementation.

Our next objective was to ensure the effectiveness of our user-documentation. We were able to meet with the Student Representative Council (SRC) to receive feedback on the clarity, effectiveness, and relative appeal of the videos. We also emailed a pilot module to over 13,000 students to request feedback on the videos. After receiving minimal interest, we conducted feedback interviews with students on-campus. To account for the positive and negative feedback we received, we rendered the video modules in a format with captions and a format without captions.
Executive Summary

The final objective was to promote the use of e-learning to students in both the online and mobile platforms, throughout the PON campus. Even though the PON will not implement Moodle® until February 2013, it was important to prepare students for the new e-learning system prior to implementation because it will alleviate frustration with the software and increase its use. We created fliers and brochures to display around the PON campus to encourage student participation in e-learning. We were also able to conduct classroom presentations in all undergraduate sub-schools as well as the Graduate School of Business. We also held a general presentation with interactive demonstrations of Moodle® features. These presentations were held as part of our promotional campaign to explain what e-learning was, how e-learning was beneficial, and to increase e-learning use among students.

Findings and Analysis

From initial interviews, feedback on our user documentation, and results from our promotional campaign we were able to determine limiting factors and possibilities for e-learning, student and lecturer e-learning use, a possible solution to computer access problems, and a viable approach to increase e-learning use at the PON. From our project steps, we learned the following:

1. **Minimal e-learning use** at the Polytechnic of Namibia was mainly due to **limited computer access**, lack of **awareness**, and **insufficient bandwidth**.
2. **Lecturers were reluctant to use e-learning** because of their resistances to modify teaching styles, a **lack of available time** to learn and utilize the program, and an **almost universal fear of technology**.
3. From interviews with the SRC and other PON students, we determined **video modules in conjunction with written instructions** to be the **most effective method** to display our user-documentation.
4. **Beneficial aspects** of the video modules included **placing captions** of the speaker’s voice, using **background music** at an appropriate volume, and using a **suitable module speed**.
5. Setting up **personal meetings** with lectures to present in classrooms in each of the 6 sub-schools at the PON was **more effective than sending mass emails**, in terms of lecturer responses and participation.
6. The PON could alleviate its e-learning accessibility problems with **Moodle®’s mobile platform** and the completion of a **fiber optic cable** connecting Namibia to Europe.
7. To accomplish its e-learning goals, the PON should use **incentives in combination with a top-down approach** to enforce e-learning’s use and to overcome the barrier of lecturer knowledge.
Conclusions

The PON faced many challenges before implementing an effective e-learning software program. There was minimal use of e-learning among lecturers, which was due to an almost universal fear of technology and lack of time to familiarize themselves with the e-learning system. In addition to reluctant lecturers, e-learning was further limited by the student-to-computer ratio.

However, e-learning could still flourish because students and lecturers expressed interest in using the program, if certain problems were addressed. The lecturers emphasized the importance of providing incentives including additional time and money for lecturers that attend e-learning training sessions and use e-learning in their courses. The Vice Rector was passionate about e-learning use and described a top-down approach to increase e-learning use. We believe that using a top-down approach in addition to providing incentives for lecturers would increase e-learning use. After expressing interest, students emphasized the importance of solving the computer availability problem before using e-learning. To alleviate students’ concerns about available computers, we recommend that the PON emphasize the importance of the mobile platform.

We created user-documentation, which included written instructions and 14 video modules, with narration, captions, background music, and feature highlights. Overall, students found that our modules were understandable, easy to follow, and overall beneficial in teaching students Moodle® features. To satisfy the request for written documentation, we created a written manual that mirrored the steps in the video modules. Our project focused on student documentation, but it would be essential to create both video and written instructions for lecturers to increase e-learning use.

For our promotional campaign, we set up and performed informational presentations for 26 lectures in 32 classes in various departments to promote the use of e-learning and to describe its benefits. We emphasized the importance of the mobile platform and were able to reach approximately 900 students (approximately 6.7% of the student population) directly through our classroom presentations. We promoted a general presentation in which 32 students attended. We were able to reach approximately 7000 students through a mass SMS. From our presentations, we learned that students were interested in e-learning and engaged during our presentations.

We also learned that our census for lecturers and students was ineffective in acquiring data. The more effective approach in reaching lecturers to promote e-learning was through phone calls to set up our face-to-face meetings. We also learned that for e-learning to take hold, the PON must conduct promotional events year-round, but more personnel at the CTL would be necessary for it to be feasible. To promote e-learning and increase the number of qualified Moodle® service personnel, we recommend delegating Moodle® representatives in each sub-school and from the SRC. These representatives would
Executive Summary

be proficient with Moodle® and could answer questions from students and lecturers while promoting e-learning use.

Recommendations

Based on the results from our student surveys, interviews with staff members of the PON, and interactions with the Student Representative Council, we created a list of recommendations for the PON, for the Centre for Teaching and Learning, and for future project work.

For the Polytechnic of Namibia, we recommend:

1. We recommend using incentives in conjunction with a mandated top-down approach to increase e-learning use and minimize lecturer resistance.
2. Mandating the attendance of lecturers in training sessions for Moodle® at the Centre for Teaching and Learning.

For the Centre for Teaching and Learning, we recommend:

1. Working with lecturers in one-on-one training sessions for Moodle® and creating user-documentation specifically for lecturers.
2. Encouraging both students and lecturers to use Moodle® through on-campus advertising prior to the transition to Moodle®.
3. Training a select group of students and lecturers to become Moodle® Representatives for future questions.

In terms of future work at the PON, we recommend:

1. Evaluating the transition status of Moodle® including:
   A. The number of lecturers and students that use Moodle®
   B. The proficiency of lecturers with respect to Moodle®
   C. Problematic and useful features

2. Evaluating the feasibility of the Moodle® mobile platform with respect to:
   A. Relative use among students
   B. Advantages and limitations
Authorship

Tyler Albee, Jeremy Hagger, Amy Paula, and James Perez-Rogers all contributed to the research, writing, and data collection of the following report. Each team member helped develop team goals, objectives, and the methods to accomplish our goals. Below is a detailed breakdown of each team member’s contribution to the report.

Tyler Albee – Tyler developed the Title Page, Abstract, and parts of the Background and Analysis chapters of the paper. Tyler was the main contributor for the formatting of the paper and the creation of the appendices. He edited interview questions and attended most interviews with staff of the PON. He created the promotional fliers and brochures. He also contributed in multiple edits of the paper as a whole. He also attended classroom presentations to promote e-learning. He created many video module scripts and created the final presentation.

Jeremy Hagger – Jeremy helped create the Executive Summary, Abstract, Introduction, Background, Methodology, and participated in edits of the paper by the entire team. Jeremy set up initial interviews with staff of the PON in collaboration with Tyler and James. He edited survey and interview questions and helped compile the written interviews into transcripts. He attended all interviews and assisted in compiling data from initial interviews. He assisted in creating and editing video module scripts. He called and set up meetings with all lecturers for classroom presentations. He was the chief presenter in each of our presentations in classrooms.

Amy Paula – Amy assisted in writing the Introduction, Background, Methodology, Findings and Analysis, Conclusions, Executive Summary, and Recommendation chapters. She created the classroom presentation and assisted in writing scripts for user-documentation videos. She also created the written documentation. She assisted in editing the paper as a whole. She conducted student interviews for the user-documentation feedback and compiled data for the Findings chapter in the paper.

James Perez-Rogers – James assisted in creating the Introduction, Background, Methodology, and, Executive Summary, Abstract, and Conclusions chapters. He helped develop the Findings and Analysis and Recommendations chapters. He was the executive editor and contributed to team discussions of the paper as whole. He edited the video module scripts, recorded, edited, and rendered the videos modules. He edited and finished the final presentation.
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Chapter 1: Introduction

To accommodate the innovations and advances in technology, educational institutions in developing countries have begun to incorporate technology into their curriculums to amplify and diversify educational value. Institutions use electronic learning management systems (also known as e-learning systems), such as Blackboard®, Moodle®, Guide2Learn®, and Chisimba®, to bridge the gap between traditional teaching methods and generations of students accustomed to a culture built around technology. E-learning’s benefits include its ability to reach a broad range of learners, its greater accessibility when compared to traditional learning, and its ability to increase shy students’ participation in classes.

Universities in modern countries, including European nations and the U.S., have utilized e-learning systems since their creation, but institutions with limited resources such as the Polytechnic of Namibia (PON), have just started to use them. Located in Windhoek, Namibia, the geographic isolation of the PON limits the capabilities of its current e-learning system. The vast student-to-computer ratio limits the computer availability for PON students, which prevents student interaction with the e-learning system. Ideally, the PON would use an e-learning system with a friendly user-interface to expand its curriculum and branch out to other universities in Namibia and those in South Africa. However, the current e-learning system at the PON, Chisimba, is incompatible with third party software and is not easily navigated, which causes it to go unused. The current system, also known as MyPoly, lacks features compatible with annual software upgrades. Further limiting its usage, most staff members of the PON are hesitant to utilize the outdated system because of a generational gap in technological knowledge and constant problems with the software. These factors prompted the transition to Moodle®, an open-source, e-learning management system. Our project aims to assist the e-learning department, the Centre for Teaching and Learning (CTL) at the PON, with the transition to Moodle®.

Before the PON can successfully implement Moodle®, it must address certain issues including updating the user manual for the Moodle® platform, educating the students of the new system, and promoting faculty use of the e-learning system. The transition to Moodle® will likely encounter several problems before it can reach its full potential including unfamiliarity with the new software and an overall reluctance to adapt to a new system. Thus, the overall goals of our project are to promote student usage of Moodle® to enhance learning at the PON, and to create a user documentation that will serve as a manual for students. Through our promotional campaign, we hoped to increase student awareness and usage of e-learning. We hope our user documentation educates students to use
Chapter 1: Introduction

Moodle®, alleviates future student confusion when using Moodle®, and decreases the demand for technological expertise from the Centre for Teaching and Learning.
Chapter 2: Background

This chapter examines e-learning’s role in education in developing countries and the rationale behind its use including the benefits and drawbacks and the purpose of accompanying user-documentation. After exploring various user-documentation interfaces, we narrow our focus to one specific e-learning software program, Moodle®, and its various appealing features. Lastly, this chapter examines the Polytechnic of Namibia and its e-learning preferences including current software and future Moodle® software applications.

2.1 Electronic Learning (E-Learning)

Advances in bandwidth and accessibility to the internet have encouraged the use of e-learning systems in schools in developing countries. To accommodate generations of students that have grown up accustomed to social networks and on-line communication, educational systems across the world have adopted electronic education programs. These programs incorporate technology into their curriculums to improve student learning and participation. E-learning uses electronic devices including computers, cellphones, and software programs to expand educational value of assigned work. Examples of e-learning software include Moodle®, Blackboard®, Guide2Learn®, and Chisimba®, which vary in levels of sophistication and available features. The next section will explain the benefits and drawbacks of e-learning and the purpose of user-documentation.

2.1.1 E-Learning Benefits

The benefits of e-learning have been extensively examined in numerous studies. This research shows that e-learning is effective because it has the ability to reach a diverse range of student learning styles, is easily accessible, cost effective, and efficient. This section describes the benefits of e-learning as shown by multiple research teams in developed countries. Because Windhoek is considered a modernized area and there is a lack of available data for developing countries, we chose to focus on e-learning data from developed countries.

Experimental data shows that e-learning can improve the learning ability of different kinds of learners including auditory, visual, and kinesthetic (Kruse, 2002). E-learning can reach a variety of students because it uses modules and videos to diversify teaching techniques (Clark, Six... 2002). According to Ruth Clark, former President of the Society for International Performance Improvement, e-learning uses multimedia devices including graphs and other visuals to improve a student’s ability to understand it. Another tool used in e-learning systems is the placement of words within a graphic or
picture to improve its continuity (Clark, Six... 2002). Research shows that e-learning promotes learning among different kinds of students because it enables students to visualize, listen, or use a combined audio-visual aid, to comprehend the learning material (Clark, Six... 2002; Nanda, 2012). The availability of both audio and visual aids allows students to comprehend material more effectively because “some students grasp [a] concept presented in formal abstract manner like [a] definition or a formula. Some [students] need an image to visualize, with which they can relate the concept” (Nanda, 2012).

Research shows that e-learning is both commercially available and effective due to its wide range of applications from primary schools to tertiary educational institutions. According to Kruse, e-learning reduces the costs of publishing books and materials, distribution costs, and teacher salaries (Kruse, 2002). The decrease in cost for both published work and teacher salaries is incentive enough for schools to adopt a program built around e-learning. Kruse also describes the effectiveness of e-learning in terms of its efficiency. He said that e-learning reduces the average learning time by approximately 40-60% (Kruse, 2002).

Students and lecturers can easily access e-learning material because it is readily available where there are computers or cellphones with internet access. The presence of material online also allows the student to find additional information on a topic through the internet (Mohd, et al. 2010). The convenience of e-learning allows a student who learns slower than other students, to maintain a pace that is adequate to his or her skill level. Additionally, if a student does not understand information presented online or in the classroom, he or she can use the e-learning software to contact the lecturer for answers.

E-learning also allows shy students to ask questions that they would not normally have asked in a large classroom (Mohd, et al. 2010). Students otherwise hesitant to participate in a large classroom, have the opportunity to show their skills by participating online (Kruse, 2002). E-learning systems can produce more interactive behavior by requiring students to engage in online modules, practice problems, discussion boards and other forms of interactive media.

2.1.2 E-Learning: Drawbacks

With the evident benefits of e-learning, there are bound to be drawbacks including technological ignorance, reduced social interaction, and upfront financial and time investments in the program. Of these problems, technological hesitancy and lack of knowledge are the biggest hindrances to e-learning development at the Polytechnic of Namibia. Senior generations of lecturers refuse or are hesitant to accept and use technology in their classrooms. The rate at which technology has evolved is
Chapter 2: Background

faster than the learning capability of most lecturers, especially at the PON. E-learning has also been associated with social development issues (Kruse, 2002), because it eliminates communication tools such as hand gestures and body language used in face-to-face interactions. The use of an electronic interface to interact with both fellow students and lecturers promotes impersonal interactions that lead to social impotence (Kruse, 2002). In addition to minimal social interactions through personal conversations, the use of laptop computers, cellphones, and tablet computers hinders social interactions in everyday life including school and workplaces.

Any investment is inherently risky to some extent and the risk in e-learning platforms is a minimal return-on-investment. In order to properly develop an e-learning platform and maintain a working network of information for students, a school system must first invest in the proper equipment and training for staff. The potential problem involved is that students and lecturers may misuse or refuse to use the software platform (Kruse, 2002). Cultural differences could play a significant role in the acceptance of a university or school system to adopt an e-learning management system or transition to a new platform because the staff and students could refuse to use the software and neglect the e-learning benefits (Graz, 2012).

The drawbacks of e-learning systems include investment costs, usage concerns, and social acceptance. In order to overcome these adversities, a school must decide to firmly adopt or transition to an e-learning system and mandate its usage. At the PON, we could see these obstacles because of cultural and age barriers among students and lecturers. It was essential that we inform students and encourage lecturers to use e-learning for our project to be successful.

2.1.3 User-manuals for E-Learning Systems

When adopting an e-learning management system such as Moodle®, Blackboard®, Guide2Learn® (Meyer & Smart, 2005), or Chisimba®, evaluation of available documentation or creation of a new user-documentation is essential to the success of implementation. Also known as a user-manual, the documentation’s purpose is to educate students or lecturers on e-learning software and available features. The documentation can vary in presentation from video modules, written documentation, or auditory instructions. This section will examine and evaluate the different types and uses of user-documentation we could have used for our project.

Thought to be the most effective in captivating the user’s full attention, video modules engage both auditory and visual senses of the user (Chee, 2007). While it is essential for user-documentation to accompany e-learning software, there is a clear advantage to having a video documentation over
written or auditory documentation. Some of the drawbacks of video modules include an increase in cost and an increase in workload for the creator and the user needs internet access to view the videos. However, if the creator of the user-documentation puts in the time and effort when creating the documentation, it has the ability to explain complex tasks. With a video module, the user can mimic or watch any task that is covered in the module. The level of complexity of the task is limitless in a video module because the user is “literally looking over the trainer's shoulder on how he carries out a task” (Chee, 2007).

Written documentation is an effective type of user-manual because it provides the student with a hard copy of the documentation to view at his or her own pace. Written documentation can include solely text or pictures of a task accompanied by text. This type of documentation is useful because the school can distribute the manuals relatively cheaply. Alternatively, lecturers could hand it out specifically for that class. Some of the benefits of written documentation include its cost and time savings, and its accessibility. Also, written documentation does not require computer access to use it. The drawbacks to written documentation include the lack of auditory input that could cause the reader to become distracted or bored with the material.

Auditory-documentation uses audio tracks or podcasts to inform the users of a list of tasks. An auditory documentation could contain a set of audio tracks to serve as modules for certain features. Auditory documentation contains similar benefits to written documentation in that it is able to engage the user in one sensory form but not others. The user learns the different tasks through sound but lacks visual stimulation. An added benefit to auditory documentation is its accessibility and cost efficiency. Developing countries such as Namibia could utilize this form of documentation because it is an inexpensive method to educate students of new e-learning software features. A drawback to auditory modules as a form of documentation is that they might lack the engaging factor that stimulates interest. Lack of interest might cause the documentation to go unused.

User-documentation serves as a user-manual for schools that implement e-learning systems. It is essential that this documentation is clear and concise while explaining the features extensively. The use of documentation reduces the need to rely on technology personnel for explanations and solutions to problems. A school or university could use any of the above interfaces or a combination of interfaces to display documentation depending on budgetary constraints and student dynamics.
2.2 Moodle®

The Polytechnic of Namibia will transition to Moodle® 2.2+ in February 2013 because of multiple problems with the current system, Chisimba. Problems with the current system include unsuitable features with annual upgrades, incompatibility with external features including mobile devices, and a confusing user-interface. The Moodle® platform is open-source and allows for easy configuration and easy annual upgrades. This section will describe the various aspects of Moodle® as well as appealing features that create a unique interface including personalization of student profiles, helpful quiz and assignment features, and upload capabilities.

Moodle® (Modular Object-Oriented Dynamic Learning Environment) is a free, open-source e-learning management system. Some of the uses of e-learning management systems include managing courses, delivering information to students, and maintaining an electronic network (Paragina, et al. 2011). Copyright laws protect open-source software but the user has freedom to edit the program for his or her needs.

Moodle® software puts a large emphasis on student collaboration and interaction. Lecturers can use the Forum Feature to post videos or website links as a space for discussion with students. After creating a discussion, students can post their findings and links. For example, students can use the Wiki Feature to teach each other, which allows students enrolled in a particular course to create a webpage and post information on the site. The students determine the direction in which to navigate particular projects, while the lecturers act more as facilitators (Lin, 2011).

Personal identification is an important feature for students because they can upload unique designs and pictures. Students can choose to identify themselves with one or a combination of the following formats: photos or images of any kind, letter descriptions, videos or voice recordings. Students can create private files such as GoogleDocs or YouTube videos. Other features that are useful for students include quiz navigation, and flagging.

The Glossary Feature in particular allows users to organize a list of definitions, similar to a dictionary (Moodle® 2 Features, 2012). This feature could prove useful for both lecturers and students. Lecturers could post words in classes with or without definitions and require that the students use the words in papers or memorize them for quizzes. The Glossary Feature also allows students to have access to common terminology in a course (Moodle® 2 Features, 2012). The feature is appealing to students that wish to expand their vocabularies because it provides a place to list words and definitions.

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1 A student can “flag” a question on a quiz or exam they are unsure about and go back to change their answer if they desire to do so.
Chapter 2: Background

The Discussion Board is a useful feature of Moodle® because it can help lecturers address common questions for students outside of the classroom (Graz, 2012). This eliminates the accumulation of questions during in-class lectures that distracts from course goals and uses precious time. Lecturers can set up alerts and announcements for changes in assignments in real time without having to wait until the following class to explain those changes. The Discussion Board Feature allows students in a class to reach a common understanding on homework assignments and in-class work.

Students can use the navigation section to access their course profiles (Lin, 2011) and navigate all tabs and course links within Moodle®. The navigation section tracks student progression through the Moodle® website and provides links for course web pages, links for the Blog, Discussion Forums, Messaging, and Calendar Features. Using these links, the student can switch from feature to feature with ease.

Lecturers can use the Quiz Feature to create online quizzes and can easily modify questions based on class performance on prior exams (Moodle® 2 Features, 2012). Feedback for online quizzes is both efficient and easily modified if incorrect. A lecturer can post quiz answers immediately following the completion of a quiz and upload grades to the Gradebook Feature.

A student’s Gradebook records all student grades within a course as well as class averages. A student can view his or her grades in a particular course or multiple courses using a link within the Gradebook. In this feature, he or she can also view comments posted by the lecturer about each assignment.

Moodle® has the power to provide students with a good education by delivering carefully designed learning environments and will prove to be a beneficial tool in accomplishing the PON’s goal of improving educational value and efficiency.

2.3 The Polytechnic of Namibia

Almost universally valued, education is an important part of Namibian life, so much so that the government spends roughly 20% of its national budget on the educational system in order to improve it (Fischer, 2010). There are approximately 600,000 students in Namibia and over 1,500 schools, but only 12% of those students attend a tertiary school (Sasman, 2011) such as the Polytechnic of Namibia or University of Namibia. This section will explore the Polytechnic of Namibia and its previous attempts to develop electronic learning.

In 1997, the Namibian Parliament established the Polytechnic of Namibia Act that created the Polytechnic of Namibia (Möwes, 2008). The PON concentrates its education on the industrial sector such
as technical and administrative studies but provides vocational training for other professions. The Act established the PON as a university to provide “post-secondary education and continuing education at a post-secondary school level,” (Möwes, 2008). Home to approximately 7000 full-time students, 3400 part-time students, 3000 distance students, and approximately 480 lecturers, the PON is passionate in its attempts to improve its education through technology. The PON is comprised of 6 undergraduate sub-schools including the schools of Management, Engineering, Health and Applied Science, Humanities, Information Technology, and Natural Resources and Tourism.

The PON has several technology departments including the Center for Teaching and Learning (CTL), Bureau of Computer Services (BCS), and Information Technology Department (IT) that must maintain all campus technology and perform software updates every few years. Directed by Dr. Michael Tjivikua and run with the help of Maurice Nkusi, Head of Instructional Technology, the CTL must train PON staff to use technology on campus. The CTL department is responsible for educating lecturers on new technology including the recently installed SMART® Boards on the PON campus and the new Moodle® software program.

2.3.1 Computer Availability at the Polytechnic of Namibia

The PON has approximately 2,500 computers available on-campus for student use but according to the Student Representative Council (SRC), many of the computers are either broken or do not have internet access. Approximately 95% of the student population is computer literate to varying degrees, but only 8% of students have personal computers (Evrard, 2012). Combining the 1,000 personal computers with the 2,500 lab computers, computer access is confined to approximately 33% of the 10,500 students (including full-time and part-time) on campus. This forces approximately 67% of the students to wait for available computers in the library and in other buildings or forfeit the use of a computer. This lack of available computers forces students to rely on their cellphones for communication and internet.

E-learning is dependent on computer accessibility, and a lack of computer access could be detrimental to the successful use of e-learning at the PON because of the lack of computer access. This has required the PON to create innovative alternatives in the form of a mobile platform. The PON has begun utilize the e-learning mobile platform to solve its computer access problem because approximately 67% of students have cellphones with internet.
2.3.2 E-Learning at the Polytechnic of Namibia

E-Learning has been used at the PON for approximately 7 years (Kloppers, 2012). Initially, the PON introduced Moodle® to the student population in 2005 but then switched to the e-learning system, Kewl®, in 2006. After encountering several software problems with Kewl®, the PON upgraded to Chisimba® in February 2011 (Nkusi, 2012) and continued to use it throughout 2012. The main rationale behind the national switch to Chisimba was that it was a native African product. Chisimba®, much like Kewl®, suffered from incompatible feature problems with annual software upgrades. According to the Student Representative Council (SRC), less than 10% of the student population used it (SRC Interview, 2012). Technological problems were more extensive in recent years when compared to Namibia today (Nkusi, 2012). Limitations in bandwidth severely curtailed the use of electronic media on campus for much of the day while the lack of computer availability meant that only a few students could access them and become proficient with computer software.

Even though the PON used Chisimba for approximately 2 years, the system has become unsuitable to cater for the PON’s needs. Chisimba® failed in its resourcefulness and usage, and is incapable of prolonged use at the PON. This lack of awareness was demonstrated in 2011 when a group of Worcester Polytechnic Institute students aimed to promote the e-learning system through a presentation geared towards students. Unfortunately, students lacked e-learning knowledge and interest and therefore zero students attended the presentation.

In early 2012, the PON initiated the transition back to Moodle®. The transition will be completed in February 2013 (Nkusi, 2012). This is an updated version of the same e-learning software program used at the PON in 2005. According to interviews in April 2012, the transition is strongly supported by the CTL, by the Vice Rector, Dr. Niikondo, and other stakeholders. The factors that created past problems are gradually fading with the completion of additional fiber optic cables in 2012, linking Namibia to Europe and southern Africa (Rukoro, 2012). However, student access to computers remains staggeringly high, there is minimal awareness of the existence of e-learning on the PON campus, and the CTL is only able to work with lecturers and educate them on the new software. The CTL commissioned our group to work with the student population to raise awareness of the current software and the new software. To alleviate concerns from students about the new system and its uses, the CTL requested that we create a user-documentation strictly for students to explain Moodle® features and captivate students’ involvement.
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In order to ensure the successful implementation of the new e-learning program in 2013, Mr. Nkusi and Dr. Tjivikua of the CTL appointed our group to assist them in educating the students of the PON about the new e-learning system, Moodle®. Additionally we were given the responsibility to create a user-manual for students to use after the program was implemented. From initial research and from an initial sponsor interview over the phone, we were able to generate a list of goals and objectives as seen below:

The goals we established for our project were:

- To educate students of the Polytechnic of Namibia about the features of Moodle® through the creation of a user-manual consisting of modules that enhance student interest.
- To promote the use of e-learning by students in both the computer and mobile platforms.

The objectives of our project included the following:

1. Interview staff of the CTL, other technology departments, the Student Representative Council (SRC), and lecturers to understand the resources and obstacles at the Polytechnic of Namibia regarding e-learning.
2. Create a user-manual that could be used as a guide for students to navigate the various features of the new Moodle® software.
3. Obtain feedback from the SRC and other students on our video modules to ensure their effectiveness.
4. Promote the use of Moodle®, in both the computer and mobile platforms, throughout the PON campus.

The following sections describe the methods we used to complete our objectives and accomplish our goals.
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3.1 Objective 1

Interview staff of the CTL, other technology departments, the Student Representative Council (SRC), and lecturers to understand the resources and obstacles at the Polytechnic of Namibia regarding e-learning.

The first objective to complete was to become acclimated with the Polytechnic of Namibia’s campus, culture, technology, faculty, and students. We met with current students, lecturers and other faculty to get the best understanding of what they wanted from the new e-learning software. To ensure we accounted for a majority of these views prior to the implementation of Moodle®, we set up interviews with the following people:

- **From the Centre for Teaching and Learning (CTL):** Maurice Nkusi, Dr. Michael Tjivikua, Joseph Gandanhamo, Kape Tjiroze, Jotam Muuondjo
- **From the Student Representative Council (SRC):** President - Gustav Mbeha, Vice President - Emilia Uupindi, and other members
- **From the Bureau of Computer Services (BCS):** Director – Laurent Evrard, other members including Gabriel Rukoro, Marco Maartens, Juanita Frans
- **From the Centre for Open and Lifelong Learning (COLL):** Georgie Avard, Leena Kloppers
- **Lecturers:** Patrick Graz, Lecturer at the School of Natural Resources and Land Management, 27 other lecturers from various schools and departments at the PON

After arriving at the Polytechnic of Namibia, we conducted our initial interviews with the staff of the Center for Teaching and Learning (CTL) including Mr. Nkusi, Dr. Tjivikua, and Mr. Gandanhamo. These interviews focused on Moodle®’s appealing aspects and the reasons behind the switch from Chisimba to Moodle®. The questions that we asked included:

- Why switch from Chisimba to Moodle®? What initiated the transition?
- When will the official transition to Moodle® occur?
- What were the problems with Chisimba?
- What are the goals for e-learning at the PON?
- What prohibits lecturers from using e-learning?
- What are the benefits and downfalls of e-learning usage?
- How many students use the current system?
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At the CTL, we met other members of the staff and found it useful to interview those members as well. We interviewed Jotam Muuondjo and Kape Tjiroze, Administrative Officers of the CTL and reviewed the same questions we had for Mr. Nkusi, Mr. Tjivikua, and Mr. Gandanhamo.

We set up a meeting with the Student Representative Council (SRC) to discuss the students’ understanding, views, and awareness of the current e-learning system and of the change to Moodle®. The interview addressed the following questions:

- What was the student knowledge of e-learning?
- Who of the council had used e-learning while studying at the PON?
- What is the general accessibility of computers for students to use?
- What is the best way to reach students to promote e-learning?
- What features of e-learning would students be interested in?

The interviews with students were semi-structured, which allowed us to ask general questions but left room for us to ask more specific questions. We inquired about students’ general opinions of e-learning and determined appropriate ways to reach students in our promotional campaign. It was important to determine the current knowledge of students with respect to the existing e-learning system because the students were already knowledgeable about the problems with Chisimba and its relative usage in classrooms. It was also important to develop relations with the SRC because they represented the majority of our stakeholders.

At the BCS, we interviewed the director of the Bureau of Computer Services Dr. Laurent Evrard, systems administrators, and other BCS staff including Juanita Frans, Reino Ihemba, Marco Maartens, and Gabriel Rukoro, to inquire about the new fiber optic cable, computer-related questions, and cell phone usage. It was important for our group to obtain significant statistical data concerning cell phone usage and internet usage around campus to efficiently reach the student body in our Moodle® promotions. The BCS director could not answer most of our questions but he referred us to Mr. Rukoro for more information. Unfortunately, we were unable to obtain the information we needed from him because he did not have the answers and he referred us to Mr. Maartens. From him, we learned the internet speed and the number of devices connected to the internet (Maartens, 2012). From Ms. Frans, we obtained cellphone usage data, the number of student phones with internet access, and the relative computer access for each school on campus.

Mr. Nkusi brought Patrick Graz, a lecturer in the School of Natural Resources and Land Management at the PON, to our attention because he worked with Moodle® in Australia prior to
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working at the PON and was part of the pilot classes for Moodle® at the PON. The classes were very small but taught using the pilot version of Moodle®. We interviewed Mr. Graz to obtain an insider’s perspective about lecturers who used Moodle® and those who did not. We were hoping to understand the pros and cons of Moodle®. He also provided us with a resource to reach other lecturers. It was essential for us to interview Mr. Graz because we needed to understand the view of a lecturer that used Moodle® and how to raise student awareness.

Our initial interviews provided us with a basic understanding of the PON campus, an insider’s perspective into Moodle® usage, and reasons for the transition to Moodle®. We were also able to determine the appropriate ways to create our user-documentation and ways to promote e-learning use by students.

3.2 Objective 2

*Create a user-manual that could be used as a guide for students to navigate the various features of the new Moodle® software.*

Prior to our departure for Namibia, we spoke to Debra Dexter, a Software Solutions Specialist at Worcester Polytechnic Institute, and determined three methods to present our user-manual (also known as user-documentation). The three ways to create the manual included written instructions, video modules, and audio documentation. In the first approach, we would display the documentation by creating a written manual that would be accompanied by screenshots of Moodle® to help demonstrate a task. The second approach would be to use a screen-recording program such as Camtasia® where we produce short video modules on how to complete each task of the user-documentation. A third possibility would be to create podcasts or voice recording for each task of the user-documentation that could be accessed easily in the mobile platform.

Based on the preliminary interviews with the students, lecturers and IT staff, we determined the best way to create the user-documentation was to use a combination of video documentation comprised of individual feature modules and a written documentation manual. We determined that this approach would reach the greatest number of students based on our interview with the SRC. We decided to use a script template, given to us by Debra Dexter prior to our departure, to write our scripts for the feature modules. We used Camtasia® screen recording software to record both audio and video feeds for the modules narrated by James Perez-Rogers. Some of the features included in the documentation modules for Moodle® were logging in and changing password, editing profile, editing settings, and navigating the Moodle® home page. The written manual for Moodle® features was created
using screen shots of the Moodle® page with accompanied descriptions. We used print screens to capture the screen images we needed and composed instructions to assist the user in navigating the Moodle® page.

3.3 Objective 3

Obtain feedback from the SRC and other students on our video modules to ensure their effectiveness.

It was essential that we obtain feedback on our user-documentation to ensure its effectiveness and comprehensiveness for its target audience, the students. We met with the Student Representative Council members again to gather their opinions of our documentation. We also performed face-to-face interviews with 41 students on campus to obtain feedback on our documentation. The questions that we were hoping to get answers to in terms of feedback of the video module included:

- How comprehensive was the documentation module?
- Were you able to understand the speaker narration? Did the speaker move too quickly through the module?
- Were you able to follow the module with ease?
- Are there any features that you would like to see included in the documentation that we neglected to include?
- Would you use the modules to help teach you e-learning features in the future?
- Would you encourage other students to use e-learning and refer them to the documentation for any questions regarding features?

In an attempt to conserve time, we did not obtain feedback on our written documentation because it mirrored our video documentation without narration and music. The interviews with the SRC provided a substantial insight into our user-documentation from the viewpoint of a PON student. It enabled us to see translational discrepancies and how to fix these problems before finalizing the documentation.

3.4 Objective 4

Promote the use of Moodle®, in both the computer and mobile platforms, throughout the PON campus.

Our sponsor explicitly stated that one of our objectives was to promote the use of Moodle® software by students. To accomplish this objective and fulfill our goal of increasing Moodle® usage throughout the PON campus we created a promotional campaign directed at students. Some of the
important objectives of this campaign concerning promotional ideas included the list of sub-objectives below:

A. Conduct presentations in classrooms to promote e-learning, raise awareness of our general presentation, and inform students of our available user-documentation.

B. Encourage students and lecturers to attend a general e-learning presentation through a mass SMS, through promotional fliers, and with the help of the SRC.

C. Use a general presentation geared for students to promote the use of Moodle® by students.

D. Promote student and lecturer use of e-learning through various posters, fliers, and brochures.

**Sub-Objective A:**

To be able to promote our information on Moodle® and e-learning, we needed to contact lecturers in each sub-school and establish available times to present to students. We created a memo that was sent to all lecturers that defined our project goals and objectives and outlined the importance of e-learning. After receiving minimal interest from lecturers, we proceeded to call lecturers and set up face-to-face meetings.

Using a list of lecturers that attended e-learning training sessions at the CTL, we were able to call lecturers to set up meetings and presentations. Most lecturers wished to meet with us prior to presenting to discuss the benefits of e-learning and the material we would present. We directed our presentations towards students instead of lecturers because Mr. Nkusi emphatically told our group not to impose our presentations on the lecturers. He said any attempts by our group to train or teach the lecturers of the importance of e-learning would be interpreted as disrespectful and would be disregarded. The presentations were 5-10 minutes during class, included information of e-learning benefits, and focused on Moodle®’s various appealing features.

The following is a short synopsis of each of our standard presentations:

I. Introduction of each team member and short description of the purpose of our presentation.

II. Ask the question “Who knows what e-learning is?”

III. Short description of what e-learning is and the current system at the PON (Chisimba, also known as MyPoly) followed by description of Moodle® and when the PON will transition.

IV. Description of Moodle® (will also be called MyPoly) features including: Chat and Messaging, Online Lecture Notes, Wiki’s, Discussion Boards, Blogs, Glossaries, and the mobile platform accessibility.
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V. Explanation of the mobile Moodle® platform including that it can work on practically any phone with internet.

VI. Short demonstration – Module name: “Navigation of the MyPoly Site Page,” and description of where to find the MyPoly site and modules.

VII. Short 2-3 minutes of questions from students.

These presentations were crucial in our promotional campaign because we were able to reach the most students in a classroom setting and e-learning was interpreted as an important class resource.

Sub-Objective B:

To promote our general presentation, we used a mass SMS, created promotional fliers which we posted around campus, and received help from the SRC. With the help of the CTL, we sent a mass SMS to all full-time students that outlined the details of our presentation including location, date, time, and topics covered. With the mass SMS, we were confronted with a cost factor that was paid for by the CTL. We decided the SMS was an essential step in our promotional campaign and carefully developed our message to students. The SMS was necessary because it could reach 97% of the full-time student population (Frans, 2012) which was significantly more than the fliers and posters, or classroom presentations. We created promotional fliers and posted them in the main campus and lower campus that outlined the same information as the SMS. We found suitable locations around campus to post fliers that described the details of our presentation. With the help of the SRC we were able to promote our general presentation and increase student involvement.

Sub-Objective C:

We conducted a general presentation for the students with the help of Mr. Nkusi, Dr. Tjivikua, and the CTL. We used the CTL’s venue for both the location and time of our presentation. At the request of Mr. Nkusi, we created a detailed presentation that outlined various Moodle® features and included demonstrations of general navigation, logging in, messaging friends, taking a quiz, submitting an assignment, and using the E-Portfolio Feature. At the request of Mr. Nkusi, the demonstrations were not to be viewings of our video modules, but interactive sessions with audience participation.

Sub-Objective D:

As part of our promotional campaign, we created posters, fliers, and brochures with the PON’s logo as a background, overlapped with text and pictures. As illustrated in Appendices AA & AB, the front
of the brochure included information for students about what e-learning was, why it was a useful resource for education, and how to start using it at the PON. The reverse side of the brochure contained six of the features available on the Moodle® (MyPoly) site. Under each feature section, we included three bullet points about why this feature was useful for students to use.

To educate the students about how to access the MyPoly site from cellphones, we created a flier for distribution to educate students about Moodle®’s mobile compatibility. The flier contained pictures of PON students using cell phones to personalize it, as seen in Appendices AC & AD. The flier described different types of phones that could access the Moodle® site as a valuable alternative to waiting for a computer.

In preparation for our General Presentation to the students, we developed fliers, as seen in Appendix Y, and posted them around campus prior to the event. The fliers included the time and date of our event and information about our presentation material. We distributed the fliers around campus to ensure we could reach the most students to tell them about our presentation.
Chapter 4: Data Analysis & Findings

This chapter examines the quantitative and qualitative data we received from our initial interviews, the video modules that we created and the feedback that we received, the results of our promotional campaign for e-learning use by students, and the conjectures we have determined.

4.1 Resources and Obstacles Regarding E-learning

From our initial interviews with the staff from the CTL, staff from the BCS, including BCS Director Dr. Evrard, lecturers from various departments, and with the Student Representative Council (SRC), we were able to determine e-learning’s resources and obstacles at the PON with respect to Chisimba and Moodle®. This section examines the findings we have inferred from our initial weeks at the PON, from data we gathered as seen in Appendices A through R.

1. Lecturers were reluctant to use e-learning because of their resistances to modify teaching styles, a lack of available time to learn and utilize the program, and an almost universal fear of technology.

   From our interviews with Dr. Tjivikua, Mr. Nkusi, Mr. Gandanhamo, Mr. Muuondjo, and Ms. Tjiroze, we were able to determine the resources and obstacles the CTL encountered when implementing e-learning systems. One of the biggest problems was lecturer resistance to use the platform. “Lecturers [were] reluctant to get involved...” because they wanted to continue using traditional methods, said Ms. Tjiroze. According to Dr. Tjivikua, the reason for this hesitance was a general “technophobia” among lecturers. This phobia refers to a fear of technology, which is due to “...not knowing what the technology can do...” as explained by Mr. Muuondjo. According to the surveys we conducted in our pre-presentation meetings with lecturers, we also determined the lecturers shared the view of Dr. Tjivikua. Even though “technophobia” was believed to be the main factor in preventing lecturer participation, we knew it was necessary to verify this when compared to the lecturer views.

   Lecturers were not able to adapt to the new software solely because of their fears of technology, but also because of the unavailable time to learn and utilize the software. Mr. Gandanhamo, Instructional Technology Designer at the CTL, stated, “It is an issue of time; time to be trained; time to sit down and put together an e-course.” Lecturers did not want to learn to use e-learning software and put course-work online because it required too much time. Mr. Muuondjo told us, “Lecturers complain about the time it takes to learn the system,” and that the help session attendance was generally low. He explicated that he had “only 1 participant in the last help session.” This low attendance was partly due
to the busy schedules of lecturers, but also because of their fears of technology and a large dropout rate. According to Ms. Kloppers, an Instructional Designer at the Centre for Open and Lifelong Learning, only 7 out of 27 lecturers completed an e-learning course designed to teach them how to use e-learning. The dropout rate, approximately 74%, was mainly due because the “lecturers [were] under a lot of pressure and don’t have time to learn the system” (Kloppers, 2012). Lecturers resisted e-learning because they felt “it [was] imposed [on] them” (Nkusi, 2012) and they did not want to change teaching styles. Dr. Tjivikua, Mr. Gandanhamo, Mr. Nkusi, and Mr. Muuondjo were all qualified to comment on the reasons behind lecturer reluctance, but more data would be required to determine the exact reasons for lecturer hesitance on an individual level, which was not in the scope of this project.

2. Minimal e-learning use at the Polytechnic of Namibia was mainly due to limited computer access, lack of awareness, and insufficient bandwidth.

We researched the drawbacks of e-learning prior to our project but accumulated new obstacles specifically at the PON. At the PON, the biggest setback for e-learning was accessible computers. With the student-to-computer ratio around 10:1 (Evrard, 2012), a majority of students did not have computer access. According to Mr. Muuondjo, “...students must have a computer or access to the internet in some way but in this environment there are quite a number of students that do not have access to the program...” The PON campus size limits the available computer space, which funnels the number of available computers around campus.

From our interview with the SRC, we learned that approximately 10% of the student population knew what e-learning was and even less had used e-learning in classes (SRC Interview, 2012). This was a major hurdle for e-learning because more than 90% of the student body had never used Chisimba in any class. However, this proved useful in providing validity for our promotional campaign, as discussed later in this chapter. Minimal awareness was caused partly because lecturers do not use e-learning in classrooms and do not introduce it to the students.

From our interview with the BCS Director, Dr. Laurent Evrard, we learned that there were approximately 2500 available computers on campus and that approximately 1000 students have personal laptop computers (Evrard, 2012). When compared with the student population (approximately 13,000), these computers put the student-to-computer ratio at approximately 4:1. However, according to Dr. Evrard, many of the 2500 available computers did not have internet access or were not functional. Dr. Evrard emphasized that the student-to-computer ratio was closer to 10:1, which narrowed the 2500 available computers to approximately 800. This ratio caused students to wait upwards of 9 hours for an
available computer (SRC Interview, 2012). Figure 1 illustrates the comparison of the estimated number of students with computer access on campus compared to actual access.

At the PON, student internet speed was almost at a standstill. The internet speed at the PON in April 2012 was 5 Megabits-per-second (Mbps) incoming and 60 Mbps outgoing with approximately 14,000 wireless devices connected and approximately 2,000 wired devices connected (Maartens, 2012). With over 16,000 devices connected to the PON internet, the internet speed slowed to a crawl.

The factors that contribute to minimal e-learning use at the PON range from minimal awareness and available computers to a relatively sluggish bandwidth. To increase e-learning use, the PON must either combat these negative aspects or work around them.

![Distribution of Student Computer Access](image)

**Figure 1: Estimated vs. Actual Distribution of Student Computer Access On-Campus:**
This figure represents the estimated distribution of computers on-campus including the number of computers in labs and around campus for students (blue) and the number of students with personal computers (green). The actual distribution (left) illustrates the actual availability of computers on-campus subtracting an estimated number of broken machines.

### 4.2 Problematic Chisimba and the Appealing Factors of Moodle®

This section describes the problematic areas of Chisimba that resulted in limited use by lecturers and students. It also examines the various appealing features of Moodle® and the reasons behind the transition back to Moodle® in February 2013.

1. **Chisimba is not suitable for the PON** because it was not compatible with annual upgrades, it lacked a user-friendly interface, and it was not compatible with the mobile platform.
From our interviews with Mr. Nkusi, Dr. Tjivikua, Mr. Gandanhamo, and Mr. Muuondjo, we were able to determine the drawbacks of Chisimba. We learned that Chisimba was difficult to navigate because of a confusing layout (Gandanhamo, 2012). Mr. Gandanhamo stated the major concern with Chisimba was its “consistency”, which led to more confusion among users. Chisimba was also described as “not efficient” because “[it] is just a small group in South Africa” when referring to the creators of the software (Nkusi, 2012). Mr. Gandanhamo also stated that Chisimba was “not structured for [the] mobile interface”. From the data we received, there was evidence to support the switch from Chisimba.

Patrick Graz, a lecturer in the School of Natural Resources and Land Management, gave us an insight into the problems associated with implementing an e-learning system because he worked with e-learning systems in Australia prior to teaching at the PON. He said he used Chisimba, but that “…the maneuverability of the site [was] complex and need[ed] to be simplified…” which proved difficult for students that did not use e-learning regularly. From the interviews with staff from the CTL and with Patrick Graz, we determined that Chisimba was not suitable for the PON and its students. To increase student involvement in e-learning and improve lecturer participation, the PON decided to initiate a transition to Moodle® in February 2013.

2. The Moodle® 2.2+ platform was more suited for the PON because it promised computer and mobile compatibilities, had new features, and had the potential to create a viable virtual learning program.

The purpose of our interviews with staff from the CTL was to determine the rationale behind the switch to Moodle®. We learned the various appealing features of Moodle® when compared to Chisimba. According to Mr. Gandanhamo, “[Moodle®] offers a better interface because you can edit it” (Gandanhamo, 2012). This was important because Chisimba could not be easily modified for specific needs. Moodle® promised a user-friendly interface as well as compatibility with the mobile platform because “the use of phones is enhanced with Moodle®” (Tjivikua, 2012). The staff from the CTL explained the various features of Moodle® that were either missing in Chisimba or were more efficient in the new program including grading assessments. Moodle® is successful in providing effective “grading and scoring for lecturers” and “…good feedback (features) from exams…” as pointed out by Mr. Nkusi.

From the CTL interviews with both Dr. Tjivikua and Mr. Nkusi we deduced that Moodle® was a viable resource for a virtual learning program in which students could take classes from home and complete assignments online. A virtual learning program would allow a student “…to see what has been done in class if [he or she was] away for any reason…” (Tjivikua, 2012). This program would alleviate
financial concerns of enrolled students that “…are paying a huge amount of money to stay in Windhoek…” to take classes at the PON (Gandanhamo, 2012). It was the hope of Dr. Tjivikua, Mr. Nkusi, and Mr. Gandanhamo that eventually the PON would offer some of its classes online through an e-learning platform. Mr. Gandanhamo described the current situation at the PON and the lack of online classes as unacceptable. He said, “Education should not be like this…” and explained that “…at least one or two degree programs [should be] offered fully online…”

4.3 Next Steps for E-Learning

After determining the initial impressions of e-learning among lecturers, students, and staff of the PON, it was necessary to examine future goals of e-learning. This section describes the inferences that we determined from our interviews with lecturers, CTL staff, BCS staff, and the Vice Rector.

1. Moodle® has the possibility to be incorporated throughout the PON campus because students and lecturers were eager to use e-learning.

   From numerous meetings with lecturers and interviews with students, we learned that once informed, students and lecturers were eager to use e-learning. In our meetings with lecturers prior to our presentations, we explained the purpose of e-learning and its benefits and received positive feedback from lecturers who wished to use the program. They emphasized the problems with the PON system, including lack of available time and resources, and explicated the importance of solving these problems before using e-learning. From interviews and surveys with students, we learned that students were eager to embrace e-learning and its various appealing features. The students also expressed interest in using our documentation to learn Moodle® features. Based on the level of interest we received about e-learning and Moodle® at the PON, we are confident in the expansion of e-learning use in the future.

2. E-Learning-related problems on the PON campus could be alleviated with Moodle®’s mobile accessibility and the completion of a fiber optic cable connecting Namibia to Europe.

   The amount of time for a student to wait for a computer on-campus was exceedingly high due to the student-to-computer ratio, but mobile internet access could eliminate the waiting time. According to the Dr. Evrard in 2012, approximately 97% of students had cellphones (13,512 students including distance, full-time, & part-time) and of those cellphones, approximately 70% (9,150 cellphones) had internet access as seen in Figure 2. Over 9,100 students had cellphones with internet,
which accounted for approximately 70% of the student population. Using cellphones to access e-learning was a goal of the CTL, and was feasible because approximately 70% of students could access Moodle® through their cellphones. This meant that approximately 30% of students could use computers on campus to access Moodle® and the remaining 70% could use cellphones to access the mobile version.

To alleviate concerns of slow internet speed, the PON could see increases in internet speed provided by a new fiber optic cable. According to Mr. Maartens and Dr. Evrard, the students of the PON would an increase in internet speed between December 2012 and December 2013. With the completion of the fiber optic cable, the PON was expecting the internet speed (bandwidth) to increase to 2500 megabits per-second (Mbps) from the current internet speeds (Evrard, 2012). After the increase in bandwidth from the cable, the PON was expecting internet concerns to ease and for e-learning to become more prominent.

![Student Cellphone Data for all Students Enrolled at the PON](image)

The graph illustrates the number of students with cellphones with internet access (blue), the number of students with cellphones without internet access (light blue), and the number of students without cellphones (yellow). This graph represents all students enrolled at the PON including distance-learning student statistics (total student population: 13512).

3. Some of the expectations for the future of E-learning at the PON included its universal usage, an available laptop for each student, and that the students and lecturers utilize the benefits of e-learning.
Chapter 4: Data Analysis & Findings

One of the expectations of e-learning that we learned from the CTL interviews, was for it to be used almost universally at the PON. Mr. Nkusi said that his goal “...[was] for all students to use e-learning...” but he also said that “…all lecturers must use it first...” This statement supported the fact that the lecturers were the key to spreading e-learning awareness and increasing e-learning usage at the PON. Mr. Nkusi hoped that through our user-documentation and our promotional campaign, students would begin to recognize the benefits of e-learning and start to use it. Before the students could use e-learning, the lecturers must learn to use the software through the CTL. Mr. Nkusi, Dr. Tjivikua, Mr. Muuondjo, and Mr. Gandanhamo shared the dream of a universally used e-learning system. Mr. Muuondjo said that his goal was “to get to a point for all lecturers to embrace e-learning”, and to accomplish this goal, lecturers must utilize other e-learning features. He said, “Lecturers used to only post notes online but there are so many other features that can be utilized.” When all lecturers use the e-learning system, they will be able to “see the benefits of the system,” as emphasized by Dr. Tjivikua.

The universal acceptance of e-learning at the PON was not limited to just computer use on campus, but included cellphone usage. It was the hope of the CTL that all students were “able to use cell phones to access the system”, stated Dr. Tjivikua. He hoped that students would be able to use e-learning to “see what has been done in class” if the students were absent. In order for this program to succeed, Mr. Muuondjo said, “maybe every student [should] have a laptop so students always have access to the internet” and to e-learning. The idea of providing every student with a laptop was reinforced by CTL director Dr. Tjivikua when he said it was a “great idea for all students to have computers but that [could] be costly.” Since providing every student with a computer would be very costly, he also suggested that the student-to-computer ratio could be decreased by creating open labs around campus that all students could use in combination with mobile phones.

4. **To accomplish its e-learning goals, the PON should use incentives in combination with a top-down approach to enforce e-learning’s use and to overcome the barrier of lecturer knowledge.**

From our interview with Dr. Niikondo, we were able to comprehend the lecturer knowledge barrier and explore the top-down approach to overcome it. This knowledge barrier was the biggest cause for lecturer reluctance around e-learning because they were afraid to use it. Using the top-down approach, the Vice Rector would work through Deans of schools, followed by heads of departments, and finally with lecturers to mandate e-learning use.

According to Dr. Niikondo, “[using the] top-down approach is the best way to do it because the lecturers are supposed to know [more] than the students.” He explained that educating students before
lecturers would fail because “...if the student[s] [are] more active than the professor(s), then they will lose confidence in the professor.” Dr. Niikondo persisted, “...it is a problem if the student shows the professor is weak,” when he explained the problems with an imbalance of knowledge in the hierarchical pyramid, as seen in Figure 3. He passionately explained that the mandate for e-learning must come from the peak of the pyramid and transfer down from level to level until the lecturers know how to use the e-learning system and can then teach the students to use it. This point was emphasized through our interview with the SRC, where we discussed the feasibility of all lecturers using e-learning and if a top-down approach would work. According to the SRC members, the only viable approach to increase e-learning use among lecturers was through a mandated, top-down approach (SRC Interview, 2012).

Figure 3: Hierarchical Pyramid of Top-Down Approach:
This figure represents the top-down approach recommended to us by Vice Rector Dr. Niikondo. It illustrates the flow of information in which the Rector would mandate the use of e-learning and it would be carried down the pyramid to the lecturers and students. It also ensures the widespread use of e-learning.

There would likely be lecturer resistance and hostility towards a top-down approach program if alternatives were not offered. From interviews with lecturers, SRC members, and staff of the Centre for Open and Lifelong Learning (COLL), we learned that for a top-down approach to work and receive minimal resistance, the PON would need to provide incentives for the lecturers. The incentives we discussed incorporated additional time and pay for lecturers to improve participation in the program. The lecturers needed additional time to learn the software outside of the semester and to attend paid informational sessions. In the future, it would be important for the PON to mandate e-learning use in conjunction with incentives, to improve its e-learning capabilities and minimize limitations.
4.4 Creating the User-Documentation

This section describes the interfaces and settings we used to create our user-documentation.

We created the documentation to satisfy our goal, “To educate students of the Polytechnic of Namibia about the features of Moodle®…” and to complete objective 2, which stated, “Create a user-manual that could be used as a guide for students to navigate the various features of the new Moodle® software.”

1. **We determined video modules in conjunction with written instructions to be the most effective method to display our user-documentation.**

   From our meeting with the SRC and interview with Mr. Nkusi, we determined the appropriate methods to present our user-documentation to ensure accessibility and sustained interest. At the SRC meeting, we discussed the formats to create our documentation including written instructions with screen shots and video modules. The video modules would be placed on the MyPoly page “to avoid [the] Poly network from blocking the videos” (SRC Interview, 2012). We created the documentation in video form as well as in written form based on our interviews with Mr. Nkusi and the SRC to improve accessibility and to educate students on the features of Moodle®.

2. **We created video modules with captions, background music, speaker narration, and highlighting features to improve video appeal and clarity for the user.**

   We formatted the video modules at the discretion of our sponsor, Mr. Nkusi because he said that video modules would be more effective in capturing the user’s attention. We developed 14 modules as seen in Table 1. We wrote and edited scripts for each module that the narrator followed and spoke word-for-word. This idea came from Ms. Dexter, a Software Solutions Specialist at WPI, who explained that the script would help us efficiently make the modules. The scripts contained an outline of steps for the narrator to follow throughout the module. The scripts proved useful because they ensured efficiency and consistency throughout our recordings.

   We created and narrated the video modules with Camtasia® screen-recording software. We learned how to use Camtasia® prior to our departure to Namibia from Jim Monaco, Multimedia and Production Specialist at WPI. We used the various features of Camtasia® to highlight and pan to specific steps in each module. Ms. Dexter explained that video modules created for e-learning at WPI were unappealing to students because they lacked audible stimuli. Based on this information, we decided to add instrumental background music at low volume in our modules to engage and maintain the attention
spans of students. We decided to mimic the MyPoly color scheme for our captions to make it easier for the reader when watching the module as seen in Figure 4, “Mimicking the MyPoly Color Scheme”.

<table>
<thead>
<tr>
<th>Module Name</th>
<th>Length of Video</th>
<th>Description</th>
<th>Music Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1:04</td>
<td>Introduces the CTL team and explains the purpose of the modules</td>
<td>NONE</td>
</tr>
<tr>
<td>General Navigation of the MyPoly Site Page</td>
<td>2:25</td>
<td>Describes how to navigate to the MyPoly page and what the user sees on the page before logging in</td>
<td>Angels &amp; Airwaves - Everything's Magic</td>
</tr>
<tr>
<td>Login and General Navigation of the Home Page</td>
<td>3:37</td>
<td>Shows how to login and what features the user can use on the home page</td>
<td>Grits - My Life be like</td>
</tr>
<tr>
<td>Basic Course Navigation</td>
<td>3:23</td>
<td>Shows basic navigation of a course website and available features</td>
<td>Avicii - Levels</td>
</tr>
<tr>
<td>My Profile and Password Change</td>
<td>3:23</td>
<td>Explains how to edit the My Profile Feature and Change a password</td>
<td>Don Omar - Donza Kuduro</td>
</tr>
<tr>
<td>Calendar Feature</td>
<td>4:38</td>
<td>Explains how to add a calendar event or export a calendar through the Calendar Feature</td>
<td>Eminem - Lose Yourself</td>
</tr>
<tr>
<td>Finding and Messaging Friends</td>
<td>2:02</td>
<td>Explains how to find and add friends on MyPoly</td>
<td>The Who - Teenage Wasteland</td>
</tr>
<tr>
<td>Taking a Quiz</td>
<td>5:30</td>
<td>Shows the user how to take a quiz and the possible types of questions</td>
<td>Darude - Sandstorm</td>
</tr>
<tr>
<td>Viewing and Assignment</td>
<td>1:34</td>
<td>Shows the user how to view assignments for a course</td>
<td>M.I.A. - Paper Planes</td>
</tr>
<tr>
<td>Submitting an Assignment</td>
<td>1:58</td>
<td>Shows the user how to submit assignments</td>
<td>Mandoza - Ayoba</td>
</tr>
<tr>
<td>Wiki Feature</td>
<td>3:02</td>
<td>Explains how to use the Wiki Feature</td>
<td>Deadmau5 - Ghosts 'n Stuff</td>
</tr>
<tr>
<td>E-Portfolio Feature</td>
<td>2:55</td>
<td>Explains the E-portfolio Feature</td>
<td>Eiffel 66 - I'm Blue</td>
</tr>
<tr>
<td>Discussion Forum Feature</td>
<td>2:52</td>
<td>Explains how to start or add information to a discussion forum</td>
<td>Coldplay - Clocks</td>
</tr>
<tr>
<td>Glossary Feature</td>
<td>1:58</td>
<td>Explains how to use the Glossary Feature</td>
<td>Wiz Khalifa - Black and Yellow</td>
</tr>
</tbody>
</table>

This figure illustrates our caption section (bottom) with a blue background and white text. The official colors of the Polytechnic of Namibia were taken from the logo and when recording the modules and we set the caption colors to the Poly-blue and white.

3. **We created written documentation to improve accessibility for students without computer access.**

After completing the video modules, we used screen images from the modules to make our written documentation. Mr. Nkusi urged us to use written documentation as one of our documentation interfaces because it would improve the accessibility for students. We used screen shots from our video
Chapter 4: Data Analysis & Findings

modules and the MyPoly page, in the format illustrated in Figure 5, to describe the same features as in the videos. The written documentation was comprised of descriptions, instructions, symbols, and pictures to describe each step in a task. An example of written documentation can also be seen in Appendix AG.

Figure 5: Example of Written Documentation:
This figure illustrates an example of our written documentation including added screen shots and highlighted steps. The documentation describes the steps for each module and includes a picture of the specific action to proceed to the next step.

4. When creating our video modules, some of the difficulties we encountered were time constraints, editing concerns, and external interferences with recordings.

During our creation process we realized some of the difficulties of recording and editing videos for the user-documentation. We realized that time was a major constraint and that to develop all videos in our time frame, we needed to develop the modules prior to our promotional campaign. We also realized, to record and edit the videos effectively, we needed to know the software program proficiently. As we had minimal experience with the Camtasia® screen-recording software, the first series of videos required significantly more time to record and edit. To combat this, we set aside ample time to create and edit our consecutive modules. When recording our videos we recognized that external noise concerns were evident in each video and to constrain external interference we needed to record the videos in a sound-free environment.
4.5 User-documentation Feedback

To confirm that our user-documentation was effective in teaching students Moodle® features, we attempted multiple methods to obtain feedback from students. Our first attempt to obtain feedback was to email the entire student population with a YouTube link to a short video module and a survey with questions about the video. Even though we emailed 12,156 students, our results proved to be insufficient. We received 9 completed surveys and as of May 2012, had approximately 256 views for the video on YouTube. After receiving minimal data from the mass email, we took a more aggressive approach. We personally interviewed students on campus to receive documentation feedback. Conducting face-to-face interviews with students individually proved more effective in obtaining feedback because we were able to interview 41 students, of which five were from the SRC. Combined with the student surveys, we were able to reach a total of 50 students for feedback.

1. It was not necessary to change the narrator of the videos or provide extensive explanations of steps because 98% of students we interviewed thought the video modules were easy to understand and follow.

One of our main concerns with the documentation was the ability for students to understand the speaker and follow the outlined steps. According to our sponsor, Mr. Nkusi, Namibian students might have had trouble understanding an American speaker and following the steps because of a translational barrier. However, Mr. Nkusi also felt that using an American speaker for the narration of the videos would prepare students for international jobs and relations (Nkusi, 2012). Therefore, it was essential to determine if students had trouble following the videos and understanding an American accent. From our acquired data, we determined that 98% of the students we interviewed thought the videos were both easy to understand and easy to follow, as seen in Figure 6. From this data, we concluded that revisions to our video with respect to narrator accent and revisions to include extensive explanations of steps in our videos were not necessary.
2. Using instrumental, rhythmic background music at a low volume was an appropriate method to engage the user and improve video appeal.

In an informal interview with Ms. Dexter, she recommended that we use music in our modules to improve video appeal and engage the user. We determined instrumental music to be the most effective type of music to use as a backdrop because it would not conflict with speaker narration. We verified the appropriate type of music based on informal interviews with students and the SRC in April 2012. With the SRC, we discussed the possibility of using vocal music but determined that the singer vocals would conflict with the speaker instructions. Of the students we interviewed (including SRC data), 84% of students believed the background music was appropriate and engaging as seen in Appendix S. According to a comment from our YouTube video “Basic Course Navigation Module“, a student wrote, “I would watch this video for [a] second time, just for the song in the background.” From this data, we decided not to change the background music in our modules.

To determine the appropriate volume level of the background music, we included a question regarding the music in our interviews. It was essential to engage students with music, but to reduce the volume to a level that would not distract from or overpower the speaker’s instructions. According to our student surveys, 76% believed the music was an appropriate level and did not overpower the speaker. From this data, we concluded the volume of our music in the modules to be appropriate and neglected to change the volume level.
3. Placing captions on the videos proved to be a beneficial addition for students when comprehending the narrator and following the steps. However, we rendered the videos in two formats to avoid a cognitive overload for viewers.

To better accommodate students that might interpret our modules as fast or hard to follow, we included captions of the speaker’s narration. To verify that students found the captions to be beneficial, we included a question in our survey and in our student interviews to address the effectiveness of the captions. When asked, 88% of the students we received feedback from believed that the captions helped them understand the narrator and comprehend the video steps, as noted in Appendix S.

After receiving feedback from lecturers in meetings prior to our presentations, we learned that our videos might have an overwhelming effect on the user. In terms of sensory signals, our modules contained visual aids, such as captions to follow speaker narration and highlighting elements on screen to outline specific steps. The modules also contained audio aids including speaker narration and background music. When all audio and visual aids were included, Ms. Wentworth, a lecturer in the Communication Department, considered it a “cognitive overload” because the viewer would read the captions and miss the steps in the video (Wentworth, 2012). We considered leaving the videos unchanged because the user had the ability to pause and rewind the video at his or her pace with minimal effort. However, to accommodate for this overload, we rendered the modules with and without captions but conserved the video, speaker narration, and background music in all videos.

4.6 E-Learning Promotional Campaign

We developed a promotional campaign for e-learning at the PON aimed at students to increase their involvement. This section describes our results from our promotional campaign.

5. Setting up personal meetings with lectures to present in classrooms in each of the 6 sub-schools at the PON was more effective than sending mass emails in terms of lecturer responses and participation.

In our first approach, we emailed a census to all 488 lecturers to ask for permission to present in their classrooms, but received only 4 responses. The reason for our minimal responses could have been due to misinterpretation of the purpose of our presentation. In our second approach, we set up meetings with lectures via phone calls to discuss the presentation content and ask permission to present in their classrooms. The lecturers seemed interested in e-learning after we conducted face-to-face meetings with them prior to our presentations. The second approach proved to be more effective in
reaching lecturers because we were able to set up 32 presentations and reach approximately 870 students. The presentations were 5-10 minutes and addressed the importance of e-learning, available Moodle® features, and mobile platform accessibility. The list of all presentations we gave including class department, school, number of students, dates, and other information can be found in Appendix V.

6. **With the help of the SRC, promotional fliers, and a mass Short Message Service (SMS) sent to all full-time students, we received significant improvement in student participation at our general presentation.**

   At the request of our sponsor, Mr. Nkusi, and with his assistance we secured Auditorium 1, in the Auditorium Building for our general presentation. The presentation expanded on the importance of e-learning and explained new Moodle® features through extended interactive demonstrations. Effective methods that we deployed to promote our general presentation included fliers and a mass SMS. We sent an SMS to approximately 7000 full-time students, as seen in Appendix Z, and posted 10 fliers around the PON campus. These promotions, with the help from the SRC, increased awareness of our presentation and improved student participation. Previous work to promote e-learning at the PON proved unsuccessful in facilitating student involvement. A general presentation held to promote Chisimba in 2011, had zero students in attendance, but through our promotional campaign and the help of the SRC, we increased the number of participants to 32 students.

### 4.7 Technology & Society

This section examines the impacts of e-learning at the Polytechnic of Namibia and the potential implications in similar scenarios. From our experiences with Namibian culture, life, and technological influences, we have conjured a list of lessons learned between e-learning and Namibian society and other countries around the world as seen below:

1. **Namibia has begun to use e-learning to revolutionize its education by incorporating technology into higher institutions to improve educational value. However, incorporating e-learning into primary and secondary schools could improve students’ ability to use technology.**

   Using e-learning to revolutionize education is an approach that most countries have attempted to use. Limiting factors of the degree to which technology can be incorporated include limited resources and service personnel. In Namibia, the limiting factors include computer access and lack of available space to create computer more computers. The PON hopes to use e-learning to create a virtual
Chapter 4: Data Analysis & Findings

classroom program, in which students take classes through video feeds from practically anywhere. This program can be incorporated to include distance learning students and used to combat the geographical complications in Namibia including limited population density, vast geographic area, and limited number of educational institutions.

Namibia has begun to utilize e-learning in higher institutions such as the Polytechnic of Namibia and the University of Namibia (UNAM) to improve educational value for students. E-learning has the potential to provide higher education for more students from vast areas across Namibia. It also has the potential to unify the PON and UNAM with universities of South Africa to create a shared curriculum. Although e-learning has yet to be incorporate to all levels of education in Namibia, it would be essential to utilize computers and e-learning in primary and secondary schools. Providing students earlier in school with access to computers and varying forms of education could prove useful when the students move to tertiary schools such as the PON. Introducing technology to students at young ages would better prepare them for jobs in developed countries throughout the world.

2. Mobile platforms of e-learning systems could solve computer access problems in Namibia and other countries with limited resources.

Mobile accessibility of e-learning systems is a major benefit in countries with limited resources. E-learning mobile platforms allow students to access course materials without computer access. With an increase in access to educational material, schools can incorporate technology into distance learning programs. At the Polytechnic of Namibia, e-learning mobile platforms could incorporate distance learning with improved accessibility and increase higher learning capabilities. As a result of mobile e-learning incorporation, other countries with limited resources can market mobile platforms to increase learning quality. Mobile learning can be used as a stepping-stone for future education plans that incorporate solely on-line courses and virtual learning programs.

Schools and higher institutions in Namibia and throughout the world use e-learning to bridge the gap between a generation of students accustomed to technology in everyday lives and an aged educational system. It has a significant impact on educational availability and could transition teaching and learning from locations such as schools to potentially anywhere with internet access.
Chapter 5: Conclusions & Recommendations

5.1 Conclusions

The overall goal of this project was to prepare the students at the Polytechnic of Namibia for the transition to the new e-learning software program, Moodle®, through a promotional campaign and subsequent user-documentation. We encountered many obstacles during our project including resistance from lecturers toward e-learning, lack of responses from students to our mass email for documentation feedback, and initial lecturer resistance to our presentations.

5.1.1 E-learning Limitations and Opportunities

From our initial interviews, we determined the factors that contributed in the transition to Moodle®. We learned that Chisimba was not user-friendly and incompatible with external features including mobile devices and the Virtual Classroom Feature. We also learned that Moodle® was compatible with mobile devices and easily navigated. To accomplish the CTL’s dream of universal e-learning use, we recommend that the PON promote e-learning year-round and emphasize the mobile platform as a computer substitute.

The PON faced many challenges when implementing an effective e-learning software program. There was minimal awareness of e-learning and many lecturers were unfamiliar with the benefits of e-learning and how they could improve their teaching styles. Unfamiliarity with computer-based learning programs forced lecturers to neglect e-learning use. Lack of lecturer knowledge was due to an almost universal fear of technology and lack of time to learn the e-learning system. Some lecturers preferred to teach traditionally and did not see the reasoning to change teaching styles to incorporate e-learning. In addition to reluctant lecturers, e-learning was further limited by the student-to-computer ratio. Increased demand for computer-based course work would prove difficult because a majority of students lack access to computers.

Technological problems including a lack of available computers and a lack of e-learning awareness hindered the possibilities for e-learning to evolve at the PON. However, e-learning could still flourish because students and lecturers expressed interest in using the program, if certain problems were addressed. The lecturers expressed varying levels of interest in attending e-learning training sessions and expressed time as a limiting factor. The lecturers emphasized the importance of providing incentives including additional time and money for lecturers that attend e-learning training sessions. We recommend that the PON consider providing these incentives to increase the number of lecturers that
incorporate e-learning into their courses. Students conveyed interest in e-learning but stressed the importance of solving the computer accessibility problem. To alleviate students' concerns about available computers, we recommend that the PON emphasize the importance and availability of the mobile e-learning platform.

5.1.2 Future E-learning Steps

The Centre for Teaching and Learning staff was optimistic for the future of e-learning at the PON. The staff accentuated the importance of offering classes online or incorporating parts of classes online. Mr. Gandanhamo highlighted using multiple features of e-learning instead of a select few. Dr. Tjivikua described his hopes to provide a laptop for each student, but explained the budgetary limitations. He described Moodle®'s mobile platform and how it could ease concerns of computer accessibility. The Vice Rector was passionate about e-learning use and described a top-down approach to increase e-learning use. In addition to the top-down approach, the students and lecturers were interested in using e-learning but lacked available time to learn the new system. From information gathered from interviews, we determined a top-down approach to be a viable method to increase e-learning use. We recommend using a top-down approach, but evaluating the prevalence of e-learning after the transition to Moodle®, lecturers compliance with the top-down approach, and lecturer proficiency with the new system.

5.1.3 Creating & Evaluating Our User-documentation

We created user-documentation, which included written instructions and 14 video modules, with narration, captions, background music, and feature highlights. We were able to obtain feedback on our modules in the form of surveys and interviews from 50 students, which ranged in answers. Of the 50 students that we interviewed and surveyed, 98% said the video module was easy to follow; 88% thought the captions were helpful in understanding the module steps; 84% explained that the music was appropriate and engaging; 76% believed the volume level was appropriate. Overall, students found that our modules were understandable, easy to follow, and overall beneficial in teaching students Moodle® features. From an interview with Ms. Wentworth, we learned our video modules could cause a “cognitive overload” for the user. From this conclusion, we decided to render the videos in two formats, one with captions and one without captions. Additionally, we rendered the videos without captions in a smaller format specifically designed for cellphones. To satisfy the request for written documentation (approximately 30% of the students), we created a written manual that mirrored the steps in the video
modules. Our project focused on student documentation, but it would be essential to create both video and written instructions for lecturers to increase e-learning use.

5.1.4 Promoting E-learning

For our promotional campaign, we created fliers and brochures that were used to promote e-learning around the PON. In addition, these promotional materials could be used by the CTL to promote e-learning in the future. We also set up and performed informational presentations for 26 lectures in 33 classes in various departments to promote the use of e-learning and to describe its benefits, as seen in Appendix W. Additionally, we were able to reach full-time, part-time, distance, and graduate students from all undergraduate sub-schools and a graduate school at the PON. We emphasized the importance of the mobile platform and were able to reach approximately 900 students (approximately 6.7% of the student population) directly through our classroom presentations, as seen in Appendix V.

We promoted a general presentation in which 32 students attended, as seen in Appendix X. We were able to reach approximately 7000 students through a mass SMS, as seen in Appendix Z. From our presentations, we learned that students were interested in e-learning and engaged during our presentations. We also learned that our census for lecturers and students was ineffective in acquiring data. The more effective approach in reaching lecturers to promote e-learning was through phone calls to set up our face-to-face meetings. We also learned that for e-learning to take hold, the PON must conduct promotional events year-round, but more personnel at the CTL would be necessary for it to be feasible.

5.2 Recommendations & Future Steps

Based on the results from our student surveys, interviews with staff members of the PON, and interactions with the Student Representative Council, we created a list of recommendations for the PON, for the Centre for Teaching and Learning, and for future project work as seen below.

For the Polytechnic of Namibia:

1. **We recommend using incentives in conjunction with a mandated top-down approach to increase e-learning use and minimize lecturer resistance.**

   It is important to provide some type of incentive to lecturers who use the e-learning software program. Two incentives that could prove effective in rewarding lecturers that use e-learning include time and financial compensation. If lecturers were given some type of a pay raise or bonus for each class they incorporated e-learning into, they would be much more willing to take the additional time to learn
the system. The PON could also reimburse lecturers for time spent at training sessions at the CTL. Using money as an incentive, the PON could track e-learning development and lecturer’s progression with the program.

According to Ms. Kloppers, lecturers at the PON complete the workload of three or four lecturers from other universities. With this workload, lecturers are constrained to schoolwork and personal time. If lecturers could substitute two hours of class time for every hour of e-learning related coursework, in which they would either attend an e-learning training course, or post lecture materials for an online class, they would be much more willing to use the program. To further alleviate the time dependence of each lecturer, the e-learning training sessions could include timesaving incentives including online tests, quizzes, and homework assignments. These features, if used, could save the lecturer countless hours of grading papers.

Based on interviews with members of the CTL including Dr. Tjivikua, Mr. Nkusi, and other members of departments on campus including the Bureau for Computer Services, and Vice Rector Dr. Niikondo, we determined that the best approach to ensure effective use of Moodle® would be to utilize a top-down approach. A top-down approach would ensure that the higher members in the pyramid would be proficient with Moodle®. Progressively higher positions in the PON pyramid would have more e-learning knowledge than lower levels. With this knowledge, students could ask questions to a lecturer, who could ask the head of that department, and so on further up the pyramid. This allows anyone with questions or concerns about Moodle® to ask a designated person with more Moodle® proficiency. Having a hierarchy of knowledge in which the lecturers know more about Moodle® than the students would prevent an imbalance of power and lecturers would accept it more readily.

The top down approach should mandate the use of e-learning by lecturers for courses. At a minimum, lecturers should be required to provide a course calendar, syllabus, and assignment descriptions online. These features will help students stay organized in each course without interfering with the teaching methods of the lecturer. Other features of Moodle® that should be highly encouraged are the discussion board and wiki features. These features encourage student collaboration but minimize assistance from lecturers. The mandate to use e-learning must initiate in either Rector or Vice Rector’s Office and be carried down the pyramid to ensure its full effectiveness.
2. **We recommend mandating the attendance of lecturers in training sessions for Moodle® at the Centre for Teaching and Learning.**

Many of the lecturers on campus have a limited amount of time and are not interested in spending extra time in training sessions for the e-learning software program. Lecturers should be required to attend a training session before the official implementation of Moodle® in February 2013 because it gives them ample time to learn the Moodle® platform from the CTL. Ideally, the training sessions would not only teach the lecturers about the useful features but “addict them” to e-learning (Evrard, 2012). Training sessions held before the start of a new school year would provide the lecturers with an abundance of time to create lecture notes to post online. This way, the courses would be already configured for e-learning before the start of the semester, students will have the ability to access material, and the lecturer’s time during the semester would not be hindered. Additionally, the training sessions should be held off-campus to reduce distractions for lecturers (Avard, 2012). According to interviews with lecturers, homework should be assigned to lecturers to reemphasize and evaluate their progressions through the program.

**For the Centre for Teaching and Learning, we recommend:**

1. **Working with lecturers in one-on-one training sessions for Moodle® and creating user-documentation specifically for lecturers.**

   We recommend working with lecturers one-on-one when teaching them the Moodle® platform because some lecturers will be slower to learn the software. Using individualized training sessions, the lecturers would be more likely to ask questions and comprehend the material. In addition to individualized training sessions, we recommend creating a set of video modules in a second user-documentation focused on lecturer functions and features. This documentation could eliminate questions of slower-learning lecturers. Similar to our student documentation, the modules would be readily available and could be replayed for clarification of each step or feature.

2. **Encouraging both students and lecturers to use e-learning, through on-campus promotional events prior to the transition to Moodle®.**

   We recommend that the CTL sponsor events around campus to promote the use of e-learning. Sponsoring these events will not only raise awareness of the current e-learning system, but of Moodle® prior to its implementation in February 2013. These events could range in content from events run solely by the CTL, to other events just sponsored by the CTL. At the events, the CTL could promote the
use of e-learning by handing out our fliers and displaying our posters. If a lack of personnel is an issue and the events are not feasible, we recommend the CTL use the SMS system to promote e-learning throughout the year. To increase student interest in e-learning at these events, we recommend using incentives and prizes for students. These items could range in size and value and be given away through a raffle system.

**3. Training a select group of students and lecturers to become Moodle® representatives for future questions.**

As of April 2012, Mr. Nkusi and Mr. Gandanhamo were the sole contacts for e-learning software questions for over 13,000 students and approximately 480 faculty members. They work strictly with lecturers in training sessions and are unable to work with students. We recommend, due to the limited staff number at the CTL, that the CTL train select lecturers and students to serve as Moodle® representatives. This would decrease the reliance on the CTL for e-learning answers and would allow students to seek out other proficient students for any questions or problems they have. The student representatives should be well known and include members of the SRC, other organizations, and multiple departments. The lecturer representatives should be heads of departments from each school to limit lecturers’ reliance on the CTL for answers.

**In terms of future work at the PON, we recommend:**

1. **Evaluating Moodle®’s implementation challenges, focusing on lecturer resistance, complications with PON infrastructure, and the effectiveness of our user documentation.**

   It is essential that in the near future, the CTL or another project team analyze the transition status of Moodle® and potential problems it encounters. Some of the potential complications with the implementation of Moodle® include lecturer problems with using the software, infrastructure problems, and the effectiveness of our user documentation. A future team should conduct surveys and interviews to acquire and analyze data from resistant and compliant lecturers with respect to Moodle®. It is important to analyze and understand lecturer reasons to incorporate or refuse to use e-learning. From this data, the PON can learn for transitions to future e-learning systems. Future work should evaluate the PON infrastructure over the next several years and track improvements in computer access and increases in bandwidth. Future teams should explore the effectiveness of our user-documentation and the prevalence of e-learning use among the sub-schools.
2. **Evaluating the proficiency of lecturers when using Moodle® with respect to the features used, the number of classes it was incorporated into, and lecturer proficiency in each feature.**

If mandated, lecturers would be required to use Moodle® in one or more of their classes within the next few years. To ensure that lecturers use e-learning, future work should include an evaluation of lecturer proficiency with respect to Moodle® usage. The evaluation would include an examination of the features used on Moodle® and the content posted in each class. It would also provide feedback for the top-down approach and help determine future approaches for subsequent e-learning transitions. After examining which features the lecturers use, we recommend evaluating the level of proficiency for each lecturer within each feature. This would save the CTL time in teaching lecturers because they could focus on certain problematic features. We recommend addressing how many classes would use Moodle®, within the first few years of implementation to determine trends or lack of use within the sub-schools.
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Appendices

Appendix A - Preamble Given at Beginning of Every Interview and Survey

Dear (Interviewee),

We are students from Worcester Polytechnic Institute in the United States and we are currently participating in the Interactive Qualifying Program while abroad in Namibia. Our group members are Amy Paula, Tyler Albee, Jeremy Hagger, and James Perez-Rogers and we are working with Maurice Nkusi and Michael Tjivikua at the Centre for Teaching and Learning here at the PON. The relevance of our work pertains to E-learning at the PON including its previous learning system and the future transition to Moodle e-learning software.

The goals of our project are:

- To improve overall learning capacity and quality at the PON
- To increase and promote the usage of the new e-learning system, Moodle, by both students and faculty

In order to accomplish these goals, we would like to ask you some questions about the current e-learning system, MyPoly, computer access on campus and the use of mobile devices. We would like your participation in answering the following questions. Feel free to answer any of the questions as honestly as you wish because it is important that you answer these questions as truthfully as pertains to your knowledge in order for our project to be a success and provide you with the best services possible while we are here.

Thank you,

Worcester Polytechnic Institute
Centre for Teaching and Learning IQP Group

Tyler Albee
Jeremy Hagger
Amy Paula
James Perez-Rogers
Appendices

Appendix B - Bureau of Computer Services/Centre for Open and Lifelong Learning

Interview Questions

1. How proactive are lecturers in encouraging students to use e-learning?

2. How can we encourage lecturers to use the e-learning software?

3. What factors prohibit lecturers from incorporating e-learning into their curriculum more?

4. For someone who has seen multiple e-learning software’s what are your expectations of Moodle?

5. How many employees are there in your BCS department and is this going to change with the implementation of Moodle?

6. What is the student to computer ratio?

7. How many students have cell phones and of those how many have internet access?

8. What features does Moodle have to mobile devices?

9. What is the current bandwidth at the PON?

10. When should we be expecting the new cable to be in effect? How will the effect the bandwidth?
Appendices

**Appendix C - Laurent Evrard Interview Transcript**

1. What does the new e-learning software offer that the old does not?

   CTL makes the recommendations decisions about E-Learning and E-learning Committee approves them.

   Software fixed with new software

   Chisimba does not have technical personnel any longer.

   - One expert leaving so they need to change

2. How proactive are lecturers in encouraging students to use e-learning?

   Speak to Maurice

   Usability + user creation are done by the CTL

   They advise each other

   It all depends on lecturers

   3\(^{rd}\) world lecturers

   - So many do not use computers
   - We are born with electronics other are “immigrants”

3. How can we encourage lecturers to use the e-learning software?

   Have students to ask for e-learning and to encourage / force lecturers to embrace e-learning.

4. What factors prohibit lecturers from incorporating e-learning into their curriculum more?

   1\(^{st}\) world technology

   2\(^{nd}\) world lecturers

   3\(^{rd}\) world students

   Afraid of E-Learning

   Not sure where to start

   Many don’t want to be dependent on ICT

   Computer literacy

   People need to be helped
5. For someone who has seen multiple e-learning software’s what are your expectations of Moodle?
“Cat + Mouse” game that is being played.

6. How many employees are there in your BCS department and is this going to change with the implementation of Moodle?
38 and there will be No Change in personnel

7. What is the best way to contact the student, lecturer and other faculty populations?
Ask students
E-mail
SMS? – getting costly 25 cents/ txt -13,000
Weekly CTL workshops
Still not one totally accepted way of communicating besides e-mail.

8. What is the student to computer ratio?
2500 computers
1000 laptops
1000 students with laptops
No open lab – no space as land is expensive
First year class attends Computer Users skills classes

9. How many students have cell phones and of those how many have internet access?
98% have cell phones
70% maybe more have internet access

10. When should we be expecting the new cable to be in effect?
July-December
2500 MBPS
Nothing definite
Block sites that are a waste of time
Ministry of ICT promised free bandwidth – no available figure yet
Appendices

11. Other Comments:

E-learning Knowledge

➢ 10% of students know about E-Learning existence
  o Don’t want to register
  o Are not encouraged
  o Have to encourage / force the lecturers
  o Many students are never exposed to computers until they come to the Poly, but a majority has some technology exposure – cellphones.
  o Post grad level will use E-Learning
  o 60% leave after they earn a bachelor’s degree
  o Stability issues
    • Log in time
    • Requires a lot of infrastructure
    • Requires staff

Computers

➢ “Second hand” laptops (need them)
Appendix D - Reino Ihemba Interview Transcript

1. How many students own smart phones or phones with internet access?
70% have internet access

2. How many students use MyPoly, the e-learning system?
Almost everyone has access to the software as long as they are able to access the internet

3. How many lecturers use MyPoly?
Almost all lecturers download things on MyPoly
90% of full time staff use the software

4. What types of classes is MyPoly most used for?
Engineering, IT very sure most lecturers use it

5. Anything else that may be useful: SPSS software for data analysis
Gave training to lecturers to train students
Health + Applied Mathematics are using it
Appendices

Appendix E - Marco Maartens Interview Transcript

1. What is the current bandwidth? What will it be after the cable is implemented?

5 Mbps coming in
60 Mbps outgoing
100 Mbps – 1 Gbps on campus
Roughly double the bandwidth depending on the cost

14000 Wireless devices being connected: cell phones, laptops
2000 Wired devices (includes IP cameras)

2. When should we be expecting the new cable to be in effect?

August is when London turned it on
Not until next year, December if they are lucky.
Appendices

**Appendix F - Gabriel Rukoro Interview Transcript**

1. What does the new e-learning software offer that the old does not?

   Does not know

   Instability was the main reason for change

   Person from university of western cape left and he knew how to run the system but nobody else does so it is becoming nonfunctional.

   Idea brought up by Maurice and e-learning community to switch back to Moodle

   Reason why they went to Chisimba – national decision because it was an African product

2. How many employees are there in your BCS department and is this going to change with the implementation of Moodle?

   PC support has 30 staff members
   Data Center 6
   Network Center 6
   IT Support 3
   MIIR 2

3. How many students have cell phones and of those how many have internet access?

   No exact information. Around 70-80%. (MIIR would have these numbers)

4. How would one go about sending a mass SMS?

   Speak to Juanita Franz

5. When should we be expecting the new cable to be in effect?

   August
Appendices

Appendix G - Juanita Frans Interview Transcript

1. How many students have cell phones and of those how many have internet access?

   Look at list for SMS sending

   Most everyone is buying iPhones to get on Facebook

   Gmail can be accessed on any phone but not every program can be accessed on the phones

2. Other Comments

   E-books only for students in the class

   Lecturers to be able to copy their class list over from Chisimba to Moodle

   As soon as student registers they should be automatically added to the class list

   Announcements and then clarify who it is for.

   (Gave us cell phone data sheet)
Appendices

Appendix H - Georgina Avard Interview Transcript

1. How proactive are lecturers in encouraging students to use e-learning?
I think that it is very limited
They don’t know about e-learning themselves, so it is hard to teach students
Very small number are trained so even fewer will encourage their students

2. How can we encourage lecturers to use the e-learning software?
Number 1, factor it into their workload
Give them remuneration incentives
Money and time are the most important factors. Give them that and they will most likely try it

3. For someone who has seen multiple e-learning software’s what are your expectations of Moodle?
Moodle is the preferred choice
Originally got trained on Moodle
Is widely more recognized and accepted
The new lecturers will need support to use Moodle

4. What features do Chisimba and Moodle have to mobile devices?
Chisimba couldn’t work with mobile phones
Don’t know the particular features but Moodle you can use it on the phone

5. What features do you use in Chisimba?
Use the chat forums
Synchronized chats
Document depositories
Putting up information and getting students to know what to do each week
Use mostly the basic functions – bandwidth
Most popular functions
Have started using wikis and blogs and email system (but only in some courses)
6. What studies have you conducted about e-learning or distance learning?

Small scale research
Getting a feeling for what is possible
Initial study: perception of using e-learning

➢ Were very positive about having the choice to use e-learning
➢ But don’t really have a clue about how to do it
➢ Scared to try something new
➢ Don’t have the money or technology (computers, internet)
➢ Have to do more marketing letting them know what e-learning is all about

Professional development of tutors in e0learning

➢ Training and how beneficial it was

Looking at Introducing E-learning into work integrated Learning course/placement

➢ Placing students in work areas and get them the knowledge they would need

How we could integrate network learning and would it work

➢ Poly oversees every program and guided by the PON Curriculum framework
➢ Network aspect of e-learning in the curriculum
➢ People are focused on what industry want
➢ Content focused curriculum

7. Do you think it would be beneficial for the school to offer an entire degree through e-learning?

Yes definitely
Students and the public often ask about programs via e-learning
Often say is there a full program and then they are upset
Marketing to certain students
What they want from e-learning
Student’s may t see e-learning as being stand alone and not as being supported by someone –see it as a standalone static
Appendices

8. Do you teach courses?
No, oversee the teaching
Any possible lecturers
The lecturers are territorial over their course and its content and delivery
Don’t like change, need time and incentive to do e-learning
Need someone to run the courses if they are offered via e-learning
  ➢ Full and part-time lecturers do not want to do this
Go to dean of students
  ➢ Ask for time with students

9. What is your official title?
Coordinator for courseware development

10. Other Comments:
Difficult to get the students
Need real marketers who know how to bring the students in
Handed out brochures but 5 minutes is not enough
Need a heavily researched marketing strategy

We are doing it in the correct way for us to be contacting just the students—at this stage!!
The lecturers cannot take on extra things when they don’t have the time and they don’t have any incentive
The PON is very understaffed.
There are a lot of exhausted lecturers
Politics within the poly
  ➢ Need time and money and inventive
In the e-learning policy
  ➢ Those who do e-learning would be factored into their workload
  ➢ Not being endorsed
  ➢ Not enough staff so it is impossible to factor it in
Top down won’t necessarily work
Appendices

**Appendix I - Leena Kloppers Interview Transcript**

1. **How proactive are lecturers in encouraging students to use e-learning?**

2005 Moodle was implemented
If you are interested then you can use the system
The lecturers mainly use it for notes
Communication department used it for blended learning
2007 lecturers still only wanted to use it for notes
Still going the same way
Labs are not a problem with labs for communication center
Not all students have the internet access
Lecturers get no recognition for using the program
Lecturers are under a lot of pressure and don’t have time to learn the system
Have a lot of work load
7/27 lecturers made it through entire class
Lecturers need some sort of incentive
Never have implemented the e-learning policy
Need more support
Training is not enough to get the lecturers on board
If the faculty is not on board then they will not use it

2. **How can we encourage lecturers to use the e-learning software?**

Work load, time, incentive
Teaching is not rewarded here
Don’t actually feel that they have to be innovative
People who use it, do it for their own satisfaction

3. **For someone who has seen multiple e-learning software’s what are your expectations of Moodle?**

Don’t see any difference
Learning management system features are all pretty much the same
There will be a lot of resistance
Don’t agree with how the systems have changed
Appendices

- Did not give it enough time for staff to get used to it
Staff is upset because they are getting used to the new program and then it changes
No need to move to Moodle immediately
No development happening in Chisimba
Learning management systems are becoming old news
Trend is moving toward 2.0’s
Creating networks and knowledge
Update is going to be quite slow

4. What features do Chisimba and Moodle have for mobile devices?
Moodle offers more compatibility for cell phones

5. What features do you use in Chisimba?
Mostly focus on the discussion forums
Print based study material
Students can attend weekend tutorials for more support
Vacation school when the rest of school is closed
Not much collaboration
Not all students can go to the centers for the tutorials
Technology must come in to enhance learning
  - What can we use e-learning for?
    - Makes easier for students to interact with tutor
Do not create interactive web media content
Expertise is very little in this country
Add on other material from the web
Take students through pace learning
Every week they go through the activities
Don’t have an entire program online (like entire degree)
  - But certain courses are offered online
  - Need the department on board in order to have classes online
  - Only a few courses online (every year it goes up)
Appendices

Lack of knowledge or resources from student side
Students must be computer literate (cannot be first semester of first year)
Students used to have to come to Windhoek for a day of training on the software
Not any lecturer can use e-learning
  ➢ Must know how to teach online
  ➢ Not just knowing how to use the program
  ➢ Go through a 2 month training

Students Study:
Survey with e-learning students and how they were responding
Students saw the benefit of it
Students felt like they got more out of it
Due dates are really tight
Used to do really well on assignments but fail exams

Staff Study:
Tutor study

Other Studies:
Students learn as they socially interact with other students and that is how they construct knowledge
Is learning actually happening with discussion boards
  ➢ Yes to a certain extent
  ➢ There is room for improvement
  ➢ Depends on how it is started (question)
    o How it is monitored
Students will do the limited amount of work to get the grade

Another study:
Students don’t understand what e-learning is
Send out brochures
Send out SMS’s
Appendices

Appendix J - Centre for Teaching and Learning Interview Questions

1. What does the new e-learning software offer that the old does not?


3. What aspects of the current system including user documentation are useful and should continue to be offered in the new system?

4. What are some of the downfalls you see with e-learning?

5. How proactive are lecturers in encouraging students to use course management software? And how can we encourage them to rely more on it in the future?

6. What factors prohibit lecturers from incorporating e-learning into their curriculum more?

7. How often do students come to the CTL with questions regarding e-learning?

8. What areas of the Chisimba (MyPoly) user documentation need improvement? For example: explanation of course assignment upload, or maneuverability of web browser

9. What are your experiences and expectations of e-learning at the PON?

10. How many employees are there in your CTL department and is this going to change with the implementation of Moodle?

11. What is bandwidth?

12. What are ways you want use to promote the system to the lecturers?

13. How many courses are offered?
Appendices

Appendix K - Maurice Nkusi Interview Transcript

1. What does the new e-learning software offer that the old does not?
One of the big features is the assessment part offered by Moodle. There is a range of assessment types available in Moodle that are not offered by Chisimba. Moodle allows lecturers to set questions for upload and online assignments; mark the answers and provide feedback that students can find in individual Gradebook.

Chisimba does not offer adequate interfaces for third party application as Moodle does.

Statistics – Moodle offers great statistics such as who accessed the platform, which modules accessed and for how long. There is no way students can claim accessing specific module or activity while they did not. Want to implement a simulation. Simulate an internship at a company. System would provide the business processes and the students would do this.

Moodle offers the possibility to customized screen navigation from the user perspective while this is more static for Chisimba. Moodle has a large community of developers that contribute actively to the development of the platform. Chisimba community is still relatively small but they are making progress.

Communication (instant messaging) among people on the system. On Chisimba it needs improvement.

All schools. Up to the schools to look at the different opportunities Moodle offers

3. What aspects of the current system including user documentation are useful and should continue to be offered in the new system?
Blogs are used for collaboration so they are very important.

Students need more time to work in small groups in the classroom. Group work can be facilitated in the classroom and continue online.

Prescribed textbooks. When you teach you cannot cover everything within the subject. The other aspects are still important. Link students to other sites that offer different levels of information that may not exist in your particular text book. Provide opportunities for students to research information on the Net.
Appendices

E-Portfolio (available but not efficient in Moodle) going to integrate a third party application with Moodle by Maurice. E-portfolio will be more important for students assigned to work in different organizations in Namibia for the learning integrated approach. This activity is managed by the Centre for Cooperative Education, in collaboration with PON’s schools and corporations. Lecturers can monitor what students do every day; E-portfolio help to achieve the evidence-based approach.

4. What are some of the downfalls you see with e-learning?
More advantages than negative aspects.
It is time consuming for beginners. Resistance to use it from the lecturer’s side. Fear of using technology in teaching.
More Investment in the technology, increase accessibility for students, get more computers on campus, provide laptops to students.
Increase the bandwidth for faster navigation on the Internet.
Technology can fail. Weather. Device can stop working. So you need a plan B!

5. How proactive are lecturers in encouraging students to use Learning Management software?
And how can we encourage them to rely more on it in the future?
Currently if lecturers create new assessment there is a system on Moodle that lets students know.

Create survey
➢ If they are using it
➢ Is it useful

6. What factors prohibit lecturers from incorporating e-learning into their curriculum more?
Ownership – they need to acknowledge the importance of technology to enhance teaching and learning.
There is fear of using it and it’s normal if you hear it for the first time or you did not participate in some technology capacity building.

7. How often do students come to the CTL with questions regarding e-learning?
Many times. Physically or emails. Roughly 5 e-mails a day.
Orientation is the main problem. They have not been properly introduced to the program
8. What areas of the Chisimba (MyPoly) user documentation need improvement? For example: explanation of course assignment upload, or maneuverability of web browser

To do everything! Everything needs improvement. Help integrate students

9. What are your experiences and expectations of e-learning at the PON?

High expectations in the sense that technology can help address some challenges observed in teaching and learning. It is a great tool for motivation, class participatory and student engagement. Goal is for all students to use e-learning. All lecturers need to use it first and instruct students to take advantage of numerous features offered by technology.

10. How many employees are there in your CTL department and is this going to change with the implementation of Moodle?

8 including the writing center at the library.

Staff right now is not enough. Need more people.

11. What is bandwidth

Currently bandwidth is 1 Mbps but BCS is the one to answer this more correctly
Appendices

Appendix L - Jotam Muuondja Interview Transcript

1. What are some of the downfalls you see with e-learning?
It is not as personal
Not e-learning directly but students must have a computer or access to the internet in some way but in this environment there are quite a number of students that do not have access to the program so this is one of the main problems

2. How proactive are lecturers in encouraging students to use course management software? And how can we encourage them to rely more on it in the future? What are ways you want use to promote the system to the lecturers
There are some lecturers that do this. Some of them are not keen on using e-learning. Some think it is an additional work load on top of what they are already doing.
Talk to the students.
Organize a CTL session in a large lecture hall where we can promote the benefits.
Lecturers will not be keen about adopting something unless it makes their job easier.
Can lead to a more participatory learning environment for students.

3. What factors prohibit lecturers from incorporating e-learning into their curriculum more?
There are some people who are afraid of technology.
Ignorance or not knowing what the technology can do.
Lecturers complain about the time it takes to learn the system.
Only 1 participant in last help session. Attendance in these sessions are typically low.

4. How often do students come to the CTL with questions regarding e-learning?
Do see students coming to Maurice and Joseph to ask questions.
Certain things lecturers are supposed to tell students, they don’t so sometimes students come to Maurice for answers to their questions.

5. What are your experiences and expectations of e-learning at the PON?
Dream is get to a point where all lecturers embrace e-learning.
Lecturers used to only post notes online but there are so many other features that can be utilized.
Look at the capacity of e-learning it is much more than that.
Appendices

Goal is that maybe every student would have a laptop so students would always have access to the internet.
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Appendix M - Joseph Gandanhamo Interview Transcript

1. What does the new e-learning software offer that the old does not?
   Consistency. Chisimba course content is difficult for the students to navigate.
   Stability of the platform. Chisimba has been giving problems of layout. Technical errors in the system
   Mobile accessibility
   - Chisimba – not structured for mobile interface
   - Moodle – offers a better interface because you can edit it.

   Relevance across the board. It all depends on the lecturers and how they have been trained.
   If the staff is not technically proficient in putting information on the system, and that is where the
   Instruction Technology comes in, to train them and empower them. E-learning systems are tools, only as
   good as “we” make it. It is how you use the tool.

3. What aspects of the current system including user documentation are useful and should continue to be offered in the new system?
   Sending emails. Simpler platform. Many people are trying to access their email to get their assignments
   when they could use the course management system.
   Discussion forums are consistently being asked to use
   E-Portfolio
   Chat – unexploited in Chisimba
   Wikis
   Blogs
   Basic Navigation – instead of it being a fixed content. The lecturer has the power to change the setup

4. What are some of the downfalls you see with e-learning?
   Context of the poly
   - Training is the role of the CTL
   Intellectual property. Copyright issues because you are giving the power to the lecturers and students to just copy & paste. Community development through sharing. Constructive sharing clears air around the copyright
   Access to the tools.
Appendices

How many students actually have a cell phone that will be productive?
Poly’s using e-learning in blended learning!

5. How proactive are lecturers in encouraging students to use course management software? And how can we encourage them to rely more on it in the future?

Need to conduct a survey
No clear figures
There are a lot of courses on e-learning platforms
Usage is not consistent – some lecturers use the modules, but some do not. Lecturers really want to use the discussion forum.
Lecturers are being passive by choosing areas that they want to make use of.

6. What factors prohibit lecturers from incorporating e-learning into their curriculum more?

It is the issue of time. Time to be trained. Time to sit down and put together an e-course. It is the main problem I see: TIME. Not trying to say take what you are doing and put it online. We are saying you have a course. Take some components and put them online. It shouldn’t be difficult for faculty to put some extra lessons online so students can learn more about the subject.

7. How often do students come to the CTL with questions regarding e-learning?

Quite often. They tend not to utilize e-mail. Usually questions about logging-in. Not really about navigating the website. About 3 a day.

8. What areas of the Chisimba (MyPoly) user documentation need improvement? For example: explanation of course assignment upload, or maneuverability of web browser

Make it interesting. There are a lot of “hiccups” using 4 platforms. What has improved? Must aim to draw their interest and be effective. Add features that draw interesting your documentation. Empower them with the information. Include features that benefit you in some way. Use pictures and graphics. Think about it in our context (as students). Whatever the lecturer says needs to be in my book. Know your audience. Talk like students, not like lecturers. Using pictures of real people at the PON and show that you can do it online.
9. What are your experiences and expectations of e-learning at the PON?
Long-term goal. Hoping that within his timeline at least one or two degree program being offered fully online. Where are these 13,000 students? Students are paying huge amounts of money to stay in Windhoek will they be able to eat after rents n fees n transport? Education should not be like this. It is about a change in order to accommodate what how things stand in society and how people learn. Is this really effective?
Immediate major goal is to have all courses with some aspects being offered online.

10. How many employees are there in your CTL department and is this going to change with the implementation of Moodle?
For e-learning. Two (Joseph and Maurice). Planning is increase staff and e-learning platform. Need an extra compliment of people. “We” should be offering Smartboard training For CTL there are 5.

11. What is the current bandwidth at PON?
Not sure. Internal network it was a terabyte through the wired network.

12. What are ways you want use to promote the system to the lecturers
More beneficial if you empower the students. They are needy. They need to learn they need knowledge they need to pass their classes. If you let the students have awareness of the system about the benefits to education. Having access to notes and assignments. Access to discussion forums, collaborative tools as features to aid their learning.
Not enough books/the correct books
Ask the lecturer to be at the presentation
➢ Ask what they would like to be included
If we are there the students are able to inquire and give feedback about their perspectives about e-learning
Get the students on board.
Get lecturers to hear the views of all students.

13. How many courses are offered?
More than 30
Appendix N - Michael Tjivikua Interview Transcript

1. What does the new e-learning software offer that the old does not?
The use of phones is enhanced with Moodle
Confident we will make headway in terms of utilizing the technology everyone seems to have these days

Answered through a survey after they start using Moodle
Will be beneficial to all
English will benefit the most
➢ Language barriers
➢ Essay writing
➢ Listing pronunciations

3. What aspects of the current system including user documentation are useful and should continue to be offered in the new system?
Many similar features to Moodle that serve the same purpose

4. What are some of the downfalls you see with e-learning?
Decrease in contact with lecturers
Time for learning
➢ Students are taking too many classes
   o 6 or 7 classes
      • Each are 4 hours/week
   o Not much time to learn or to allocate to discussions
   o Will have to do a lot of extra work after classes
   o If using e-learning should be able to decrease time in classroom to maybe 3 hours/week and have 1 hour/week online

5. How proactive are lecturers in encouraging students to use course management software? And how can we encourage them to rely more on it in the future?
“A lot of people want to use it. It comes down to time.” – Michael Tjivikua Do they have time to use the software.
Appendices

Need an incentive to say this will save you time in the long run
Going to get stuck with checking online stuff
If the course load was reduced then the lecturers will want to use it
The biggest incentive seems to be saving time

6. What factors prohibit lecturers from incorporating e-learning into their curriculum more?
It is adapting to using new technology
They do not know the benefits of using the software
Doubt to whether it will really work
“Technophobia” because it is something new that they don’t know and would need to learn how to use it

7. What areas of the Chisimba (MyPoly) user documentation need improvement? For example: explanation of course assignment upload, or maneuverability of web browser
Want a system that is comprehensive and easy to use. A reliable system is important.

8. What are your experiences and expectations of e-learning at the PON?
Should be beneficial to both students and faculty
Goal is to have everyone using it and seeing the benefits of the system
Being able to use cell phones to access the system
Some students have different expectations and want to be able to work from a distance because sometimes they are away
Be able to see what has been done in class if you are away for any reason
“Be involved in some way from anywhere, whether at the Poly or off in Swakopmund or Etosha” – Michael Tjivikua
Great idea for all students to have computers but that can be costly
➢ Would be ideal but not likely
Strategy plan is to have access to labs on campus (open labs). In combination with mobile phone usage, will go a long way to provide the benefits of e-learning
Increase the student computer ratio, accessibility through open labs, accessibility through cell phones.
9. What are ways you want use to promote the system to the lecturers
Going into classes and giving presentations for both students and lecturers is the best way to do it because then those lecturers and students can convince their peers to use it.
The people that use it need to be encouraging others to use it

10. How many courses are offered?
Started out with 10 courses
Started using the platform KEWL to post notes (300 courses)
When reviewing standards only a few classes were meeting the standards so they switched to Chisimba
Last year only 15-20 are meeting the standards
Appendices

**Appendix O - Kape Tjirote Interview Transcript**

1. **What are some of the downfalls you see with e-learning?**
   It is new. It is interesting. People have to use computer or cell phone all the time

2. **How proactive are lecturers in encouraging students to use course management software? And how can we encourage them to rely more on it in the future?**
   A number of lecturers did a course on e-learning for which certificates were issued by CTL. More people should get on board than what is currently the case.

   Presentations were attended by people on a voluntary basis – and only those who are interested show up
   Tried to do it school by school and see how it will work out.

3. **What factors prohibit lecturers from incorporating e-learning into their curriculum more?**
   Lecturers are reluctant to get involved.
   People are not interested
   Want to do things the conventional way, as they have done in the past – reluctant to venture into new ways of doing things.

4. **How often do students come to the CTL with questions regarding e-learning?**
   5 students a day

5. **How many employees are there in your CTL department and is this going to change with the implementation of Moodle?**
   Eight in total. Yes, depending on the outcome for the new approach of presenting – school by school.
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Appendix P - Dr. Andrew Niikondo Interview Transcript

1. What does the new e-learning software offer that the old does not?
Technical question. He has never used either program. Wants to be familiar with the new software. Wants the CTL to update them so they will

2. Why did the PON switch from Chimiba to Moodle?
Chisimba is not convenient especially in South Africa or easy to use. Moodle is very good to use. It is user friendly. Moodle is widely used. Other schools are also trying to make the switch from Chisimba to Moodle. UWC moving from Chisimba to Moodle even though they are the creators.

3. How proactive are lecturers in encouraging students to use course management software? And how can we encourage them to rely more on it in the future?
To a certain extend the lecturers are not very proactive in encouraging students in using course management system. Still is a white elephant because the lecturers are not proactive. Wants to take the dean of all the schools are going to come to the CTL to see the program. The problem is knowledge. They do not have the knowledge about these so it is difficult for them to encourage the students to use the software. Still have the old school of thought. We have to bring them to the CTL to be informed about how the software works and how it assists you. Need to know the benefits

4. What factors prohibit lecturers from incorporating e-learning into their curriculum more?
Lack of skill or knowledge because they are not informed. Top down approach is the best way to do it because the lecturers are supposed to know better than the students. If the student is more active than the lecturers then they will lose confidence in the lecturer. Knowledge is the problem. I want you as a dean you understand this much better than you HOD. A gap can be created if the people lower down on the pyramid know better than the higher officers. It is a problem if the student shows the lecturer is week. Lack of knowledge is the problem.
5. What do lecturers see as the most beneficial factors of e-learning software? ie. Everything in one place, discussion boards and other features, grading
If they are away and have knowledge about the program they would appreciate the benefits with this one.
Easy communication with the students is important.
Not enough classrooms so use of e-learning is helpful
If they have the skill of using the program

6. What are some of the downfalls you see with e-learning?
E-learning is talking about technology.
If the internet is not working then information can be lost.
If the internet is not working then students can make excuses about why their assignment is not done.
(saying there is a virus)
Without contact with the students, lazy lecturers will just send information online and do nothing about it.
Contact is very important.
There are distractions when doing work online
There is no “control” with online work so your focus is not completely on the work.

7. What are your experiences and expectations of e-learning at the PON?
I want to encourage that the PON should be a leader in e-learning software.
In the future (2014 or 15) they will be fully using e-learning
The poly is the school of technology so they need to be familiar with technology.
An embarrassment if the school of technology isn’t using the available technology
2015 fully fledged e-learning users

8. How strictly will the use of Moodle be enforced when it is implemented next year?
“I want it to be very very strict”
95% of lecturers using e-learning
Don’t want to talk and not do
Bought the software and don’t want it to be a waste of money
A course set up for each class is a goal
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If the lecturer doesn’t understand it they must go to the e-learning committee and learn the program
At least 5/7 or 6/7 should be on e-learning
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Appendix Q - Mr. Patrick Graz Interview Transcript

1. Explain why you choose or why you choose not to use MyPoly:
Using features such as the discussion board allow students to become more active in the classroom and force students to not just memorize information but actually understand and apply what they have learned.

2. In what context are you currently using the Moodle site?
This is being used as a one way informational site where I can dump information. It is currently a way for me to post information for readings and information on the course. I have also started a discussion form to allow for some communication between students. Other than that, there will be little to no student interaction with the e-learning site. This is the first time I am teaching this course so I don’t want to change the course material too much to what has been done in the past.

3. What aspects of the current system are useful and should continue to be offered in the new system?
The discussion board is incredibly useful. This allows students to comment on a particular subject and then allow myself to grade their responses accordingly. Also, when assignments are uploaded to Moodle directly, it’s possible to link to assignments to a plagiarism site. This makes it easier for students to submit assignments since they would previously have to send the assignment through the plagiarism site and then send the report along with the assignment. So this allows less work for the students.

4. What do you see as problems students may have with using e-learning?
You should first take into account the computer literacy rate, proof readings and writing abilities for students. Many students may not have regular access to a computer and may not understand basic computer literacy, proof reading and writing abilities.

Background on the education in Namibia:

During the apartheid, Africans were moved to the outskirts of Windhoek to really tough areas. Teachers were not willing to go there unless they had no other choice. This caused poor teachers to teach students in those areas. For those students, it was very impolite to question the teacher, even if the teacher was giving false information. As a result, the text books were considered unarguably correct.
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Students would memorize extremely thick textbooks word for word in order to technically have the correct answers. The issue became that students could recite long passages from it, but wouldn’t understand the context of the information. These students would often grow up under the impression that if they had trouble attaining work, they could become teachers. This allowed teachers to poorly educate students who would grow up to become teachers if they could not find any other work. This create a snowball effect.

During the apartheid, white students were taught in schools (government or private) by more highly qualified teachers. They were required to be proficient in both German and English (which was not the case for African students who only needed to be proficient in one). Once the apartheid ended and all students were integrated, there was a sever imbalance between the White and African students. White students would master the course material much better than African students simply because they were taught by more qualified teachers and had higher expectation of education. When this imbalance occurred, it was never addressed why it was occurring only that it was. So the education department / ministry of education would scale the grades to the extent that a 50% in mathematics could result in a mark of “A.”

This has been an issue for a long time and has been addressed for the first time this past year. So hopefully now, something will be able to be done regarding the imbalance.

5. What factors prohibit lecturers from incorporating e-learning into their curriculum more? Lecturers are often stuck in their ways. It takes time for the lectures to learn the new software especially if they don’t see the benefits of using it. It took years of using and advocating e-learning before my colleagues were interested in seeing its benefits.

6. What do lecturers see as the most beneficial factors of e-learning software? It allows students to understand the material better instead of just reciting the text book through features such as discussion boards and wiki’s. It also makes cheating and plagiarizing harder by submitting assignments online.

7. Would lecturers want students to rely more on computers to help with class-work? This varies based on the department. The IT department for example, uses computers heavily, but other departments are very hesitant to use e-learning at all.
8. What areas of the current MyPoly site need improvement? For example: explanation of course assignment upload, or maneuverability of web browser
The MyPoly site is difficult to use. The maneuverability of the site is complex and needs to be simplified.

9. What features or negative connotations make Chisimba (MyPoly) scarcely used?
I cannot answer that since I have not used Chisimba. I’m just aware that it has a poor reputation.
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Appendix R - Student Representative Council Meeting Transcript

E-Learning in General:

1. What is the computer literacy at the PON? ie. Internet browsing, word processing, desktop navigation.

95% Intro to computers

- All students/programs

2. How many students use computers?

12,000 Students > 90%

Personal: 50-70%

Campus: ~1,000

95% have to use it somewhere

Laptops

- Can buy at school
- 50% own laptops
- Every department has a computer lab

3. Do students know what e-learning is?

How many students use MyPoly?

- Not a lot of students know about MyPoly
- Very few
- 10% know it exists
- Lack of interest

First year intro: e-learning

~5 years Moodle

Tell students

- Take a course their first year about e-learning-intro
- Students are not that interested not many students know about e-learning
- 10% know what MyPoly is


E-learning-English-KEWL
Class capture
Seeing lectures on the site (never happened)

5. What would encourage students to use e-learning software more often?
Must know what will be online
- Lectures, videos, homework
Formal presentation for students of each school
Class to class announcements
Venue
Present at end of class?
Get lectures online!!
Promise to stay with Moodle for at least 5 years
Each school should have a class online

6. Do students use online networking (Facebook, twitter) to complete homework assignments?
Limited internet
Never!

7. How can we reach the students to promote the benefits of e-learning?
10 minutes at the end of each class to promote Moodle
Have lecturers announce e-learning
Take a Survey at end of a class to talk to students + lecturers
- Know what is going to be in it (assignment, lectures)
- Stand in front of the lecture building
- Make fliers
- Get students in venue (by school)
- Give a presentation-using SRC
- Lectures involved must use it
Try to get the lecturer to announce it
- Campus times newspaper
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**MyPoly:**

8. How many of you currently use MyPoly? In general which classes (English, Engineering, etc)?

- English
- Communication
- Include all schools
- None

9. What percentage of general population use MyPoly?

- 10%

10. Did students use the documentation made for MyPoly?

- No usage
- Don’t even know of a manual

11. With the new documentation that is about to be created, what would be the best way for this to be presented? ie. Videos with or without subtitles, text with images, podcasts

- Videos with subtitles
- Don’t have flash player
- Video would need to be available without downloading

12. Where would you like the documentation to be available? MyPoly website, PON homepage

- In labs printed out
- Videos
- Access restricted
- Not downloaded
- Printed out on wall of labs

**Computer Access:**

13. How often do students require internet access for schoolwork?

- Depends on course-accounting-yes
- Do use internet for homework
- Certain subjects
14. How many hours a day can a student access a computer?
15:1 “Wait at least two hours up to 9 hours” – Emilia Imene
Very hard
No access to labs after hours
Internet goes down
Lots of technical difficulties

15. How often and where, do students have access to computers with internet use?
Only access to working computers
Only some have internet in library

16. What percentage of students have computers with internet access at home or at another continuous source? If so, what are these sources?
Server down
Sites blocked
Few ~20-30% - computers
3g on phones ~65%
Very few
➤ Computers -20-30%
➤ Total 60%-3g

17. When using on campus computers, what are students mainly using them for (school work, games, jobs etc.)?
Watch soccer
No monitoring
No one checks to see if students are actually doing work

18. If students do not have internet access at home, do they use the campus computers after classes are done for the day?
Yes
Internet use for social means
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- Not for school

Must wait

**Mobile Platforms:**

19. What percentage of students have internet access on their phones?

60-70% have phones with internet

70%

Roughly 70%-60%

20. Would students be more likely to use messaging on MyPoly if it were cheaper than SMS on their phones?

Only useful on campus
Appendices

Appendix S - Student Survey Data

1. What type of student are you?
   - Full time - 40
   - Part time - 7
   - Distance - 3

2. What school do you study in?
   - School of Engineering - 20
   - School of Health and Applied Science - 4
   - School of Humanities - 6
   - School of Information Technology - 0
   - School of Management - 19
   - School of Natural Resources and Tourism - 1
   - Graduate Student - 0

3. What is your favorite song or musical artist?
   EES, PDK, EXIT, Lady Gaga, Linda, Eminem, Jay-Z, Coldplay, Famous Attack,

4. How many hours per week do you require a computer for schoolwork?
   On average 25 hours per week

5. On a scale of 1-4 (1 being very easy and 4 being very difficult), how difficult is it to access a computer anywhere on campus?
   1 (2)  2 (0)  3 (21)  4 (20)  I don’t know (7)

6. Do you have internet access outside of the Polytechnic of Namibia?
   - Yes, I have a personal computer/laptop with internet access - 9
   - Yes, I use public computer access, such as an internet café - 0
   - No, I have a personal computer/laptop but without internet access - 5
   - No, I don’t use a computer outside of campus - 36
   - Other (Please Specify): - 0
7. What type of mobile phone do you have?
   - Mobile phone with internet access - 42
   - Mobile phone without internet access - 8
   - I don’t have a mobile phone - 0

8. If you have interest access on your mobile phone, how often do you use your mobile phone as a computer substitute?
   - Every day - 37
   - Few days a week - 4
   - Once a week - 0
   - Less than once a week - 0
   - Never - 1
   - I don’t have internet on my phone - 8

9. Are you familiar with e-learning at the PON (MyPoly)?
   (“E-learning” refers to online course management software that allows students to access course material, class discussions and other features through an online website. The current e-learning system at the Polytechnic of Namibia is called MyPoly)
   - Yes, I use it or have used it previously in my courses - 21
   - Yes, I have heard of it, but I haven’t used it - 9
   - No, I don’t know what it is - 20

10. Would you be more likely to use messaging/live chat feature on MyPoly if it was cheaper than SMS?
    - Yes - 23
    - No - 13
    - I don’t know - 14

11. How many courses have you used e-learning (MyPoly) for in the past?
    - Zero Courses - 29
    - One Course - 15
    - Two Courses - 0
12. What features of MyPoly would you be interested in using (check all that apply):
   ○ View course information and assignments online - 38
   ○ Complete online tests and quizzes - 22
   ○ Submit assignments - 45
   ○ Use discussion boards and create wiki’s - 17
   ○ Manage your online portfolio - 10
   ○ Chat live with students and lecturers - 32
   ○ Use as a social network NOT blocked by the PON - 8
   ○ I’m not interested in using e-learning - 0
   ○ Other (Please Specify): - 0

13. Have you had problems with using MyPoly in the past and if so, how did you approach them?
   ○ Yes, I used the user manual to help clarify the problem - 0
   ○ Yes, I spoke with the Center for Teaching and Learning about my problem - 6
   ○ Yes, but I solved it another way - 9
   ○ No, I have never had problems with MyPoly - 12
   ○ I don’t use MyPoly - 29

14. Have you ever used the user documentation for MyPoly? If so, was it useful? Please elaborate on your answer.
   (“User Documentation” refers to any material produced to aid a person in understanding a specific website or computer software. The documentation we are making is in video form and is intended to be a user manual for the purpose of understanding and navigating the MyPoly website.)
   ○ Yes, I have used it and it was helpful because: - 0
   ○ Yes, I have used it before, but it was not helpful because: - 0
   ○ No, I have not used it before didn’t know about it - 50
15. In your opinion, what is the best format to create a user manual for MyPoly?
   - Videos with subtitles - 45
   - Text with images - 15
   - Podcasts - 1
   - Other (Please Specify): - 0

**Video Module Questions:**

16. Would you use this video module or other modules in the future if you needed help with MyPoly?
   - Yes - 50
   - No - 0

17. Was the background music an appropriate volume?
   - Yes, it was an appropriate volume and was beneficial to the module - 43
   - No, it was too loud and I could not understand the speaker - 6
   - No, background music is not appropriate for a module - 1

18. What was your opinion of the speed of the module?
   - Too fast to understand, unable to follow - 0
   - Fast, but understandable - 21
   - Normal, understandable - 29
   - Slow, but understandable - 0
   - Slow, unable to follow - 0

19. Were the subtitles helpful in understanding the speaker?
   - Yes - 44
   - No - 6

20. Were the steps in the video module easy to follow and was the speaker easily understandable?
   - The steps were easy to follow and the speaker was very easy to understand - 49
   - The steps were easy to follow but the speaker was not easy to understand - 1
   - The steps were not easy to follow but the speaker was easy to understand - 0
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- The steps were **not** easy to follow and the speaker was **not** easy to understand - 0

21. Where would you like to see this module and other videos posted for future use?
   - MyPoly website - 28
   - Polytechnic of Namibia homepage - 18
   - Hard copies through the Library - 4
   - Other (Please Specify): - 0

22. What would you change about this video module?
   - Make the subtitles larger
   - Add more upbeat music
   - Slow down the speakers voice
   - Add multiple speakers
   - Make this in paper form
   - Make this available without needed to download it
   - Alleviate the cognitive overload
Appendix T - Lecturer Survey Data

1. What school do you teach in?
   - Engineering - 4
   - Health and Applied Science - 3
   - Humanities - 12
   - Information Technologies - 6
   - Management - 1
   - Natural Resources and Tourism - 2

2. Have you used MyPoly?
   - Yes, keeps students organized - 6
   - Yes, improves participation - 11
   - Yes, saved money by not needing to print as much - 2
   - Yes, makes grading easier - 2
   - No, I do not understand how to use it - 6
   - No, it’s not worth the time and effort to learn - 3
   - No, my teaching methods work fine without it - 1
   - No, the network is too slow - 3
   - No, I don’t have access as a visiting lecturer - 1
   - No, it’s not useful in my courses - 1

3. How many courses have you used Chisimba in?
   - Zero Courses - 15
   - One Course - 6
   - Four Courses - 1
   - Five Courses - 1
   - Seven Courses - 1
   - Twelve Course - 1
   - Eighteen Courses - 1
4. What are the most beneficial factors?
   - Improve Student Organization - 8
   - Improve Student Participation & Course Knowledge - 12
   - Prevent Plagiarism - 1
   - Makes Grading Easier - 3
   - Saves Time - 3
   - Easy Access to Material - 3
   - Helps Students Stay Focused - 1

5. What factors prohibit lecturers from using e-learning more?
   - They don’t understand what it is - 4
   - They don’t know how to use it - 8
   - They see no reason to change their teaching style - 6
   - There is not enough time to learn the new system - 12
   - The current e-learning software program is problematic - 3
   - The network is slow - 5
   - The heads of departments do not use it - 2

6. Would you like your students to rely more on computers?
   - Yes - 22
   - No - 5

7. Would you like to learn more about the benefits of e-learning?
   - Yes - 26
   - No – 1
Appendices

Appendix U - Script for Lecturer Phone Calls

Hello, may I please speak with Mr./Ms. __________

My name is Jeremy. I am calling on behalf of Maurice Nkusi from the CTL, myself and my team are working on a project for him involving e-learning at the PON.

Maurice was wondering if we would be able to give a short 5 minute presentation about e-learning at the PON to your students at the end of one of your classes?

If you would like, we would be happy to set up a meeting with you when you are available to discuss the benefits of using e-learning in your class. After we have met, you can decide whether it is beneficial for us to give a presentation to your students.
# Appendix V - Presentation Details

<table>
<thead>
<tr>
<th>Lecturer Name</th>
<th>School</th>
<th>Department</th>
<th>Permission Status</th>
<th>Date / Time</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Shimii</td>
<td>Natural Resources and Tourism</td>
<td>Agriculture</td>
<td>Yes</td>
<td>4/13 - 2pm</td>
<td>47</td>
</tr>
<tr>
<td>Ms. Wentworth Olivera</td>
<td>Humanities</td>
<td>Communication</td>
<td>Yes</td>
<td>4/16 - 11:30am</td>
<td>27</td>
</tr>
<tr>
<td>Mr. Gwasira</td>
<td>Humanities</td>
<td>Languages</td>
<td>Yes</td>
<td>4/19 - 7:30am</td>
<td>40</td>
</tr>
<tr>
<td>Ms. Clarke</td>
<td>Business (Graduate)</td>
<td>Management</td>
<td>Yes</td>
<td>4/19 - 11:30am</td>
<td>3</td>
</tr>
<tr>
<td>Ms. Bezuidenhoudt</td>
<td>Humanities</td>
<td>Communication</td>
<td>Yes</td>
<td>4/20 - 10:30am</td>
<td>16</td>
</tr>
<tr>
<td>Ms. Bezuidenhoudt</td>
<td>Humanities</td>
<td>Communication</td>
<td>Yes</td>
<td>4/20 - 8:30am</td>
<td>12</td>
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<tr>
<td>Lecturer Moyo</td>
<td>Health and Applied Sciences</td>
<td>Biomedical Sciences</td>
<td>Yes</td>
<td>4/23 - 7:30am</td>
<td>29</td>
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<tr>
<td>Ms. Amupolo</td>
<td>Engineering</td>
<td>Mechanical Engineering</td>
<td>Yes</td>
<td>4/23 - 8:30am</td>
<td>14</td>
</tr>
<tr>
<td>Mr. Zulu</td>
<td>Engineering</td>
<td>Mechanical Engineering</td>
<td>Yes</td>
<td>4/23 - 10:30am</td>
<td>14</td>
</tr>
<tr>
<td>Ms. Amupolo</td>
<td>Engineering</td>
<td>Mechanical Engineering</td>
<td>Yes</td>
<td>4/23 - 11:30am</td>
<td>10</td>
</tr>
<tr>
<td>Mr. Rainey</td>
<td>Humanities</td>
<td>Communication</td>
<td>Yes</td>
<td>4/23 - 2pm</td>
<td>20</td>
</tr>
<tr>
<td>Mr. Lasso Rey</td>
<td>Humanities</td>
<td>English &amp; Foreign Languages</td>
<td>Yes</td>
<td>4/23 - 3pm</td>
<td>30</td>
</tr>
<tr>
<td>Teacher/Instructor</td>
<td>Department</td>
<td>Course/Subject</td>
<td>Available</td>
<td>Date/Time</td>
<td>Number</td>
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<td>-------------------------------------</td>
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<td>-----------</td>
<td>-----------------</td>
<td>--------</td>
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<tr>
<td>Mr. Sauerwein</td>
<td>Humanities</td>
<td>English &amp; Foreign Languages</td>
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<td>4/23 - 5:15pm</td>
<td>25</td>
</tr>
<tr>
<td>Ms. Lubbe</td>
<td>Humanities</td>
<td>Communication</td>
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<td>4/23 - 5:30pm</td>
<td>30</td>
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<tr>
<td>Mr. Mazibuko</td>
<td>Health and Applied Sciences</td>
<td>Environmental Sciences</td>
<td>Yes</td>
<td>4/24 - 8am</td>
<td>26</td>
</tr>
<tr>
<td>Ms. Ethindi</td>
<td>Humanities</td>
<td>Languages</td>
<td>Yes</td>
<td>4/24 - 8:30am</td>
<td>30</td>
</tr>
<tr>
<td>Mr. Namate</td>
<td>Engineering</td>
<td>Mining</td>
<td>Yes</td>
<td>4/24 - 9:30am</td>
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<tr>
<td>Mr. Shimii</td>
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<td>Agriculture</td>
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<td>4/24 - 10:30am</td>
<td>24</td>
</tr>
<tr>
<td>Mr. Rainey</td>
<td>Humanities</td>
<td>Communication</td>
<td>Yes</td>
<td>4/24 - 11:30am</td>
<td>14</td>
</tr>
<tr>
<td>Mr. Onjefu</td>
<td>Health and Applied Sciences</td>
<td>Environmental Health Science</td>
<td>Yes</td>
<td>4/24 - 2pm</td>
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</tr>
<tr>
<td>Ms. Frans</td>
<td>Humanities</td>
<td>Languages</td>
<td>Yes</td>
<td>4/24 - 3pm</td>
<td>17</td>
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<tr>
<td>Mr. Paulus</td>
<td>Humanities</td>
<td>Communication</td>
<td>Yes</td>
<td>4/25 - 7:30am</td>
<td>27</td>
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<tr>
<td>Mr. Kachepa</td>
<td>Information Technology</td>
<td>Basic Computer Studies</td>
<td>Yes</td>
<td>4/25 - 9:30am</td>
<td>20</td>
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<tr>
<td>Mr. Mataranyika</td>
<td>Information Technology</td>
<td>Computer Systems &amp; Networks</td>
<td>Yes</td>
<td>4/25 - 2pm</td>
<td>5</td>
</tr>
<tr>
<td>Mr. Namate</td>
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<td>Mining</td>
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<td>4/25 - 3pm</td>
<td>20</td>
</tr>
<tr>
<td>Ms. Lipito</td>
<td>Information Technology</td>
<td>Computer Systems &amp; Networks</td>
<td>Yes</td>
<td>4/25 - 5:15pm</td>
<td>20</td>
</tr>
<tr>
<td>Ms. Tjitunanga</td>
<td>Natural Resources and Tourism</td>
<td>Hospitality &amp; Tourism</td>
<td>Yes</td>
<td>4/26 - 8:30am</td>
<td>15</td>
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<tr>
<td>Mr. Zulu</td>
<td>Engineering</td>
<td>Mechanical</td>
<td>Yes</td>
<td>4/26 -</td>
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<td>Department</td>
<td>Title</td>
<td>Time Conflict</td>
<td>Date/Times</td>
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</tr>
<tr>
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<tr>
<td>Mr. Paulus</td>
<td>Humanities</td>
<td>Communication</td>
<td>Yes</td>
<td>4/26 - 11:15am - 11:30am</td>
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<tr>
<td>Mr. Mataranyika</td>
<td>Information Technology</td>
<td>Computer Systems &amp; Networks</td>
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<td>4/26 - 4pm - 2pm</td>
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<td>Information Technology</td>
<td>Computer Systems &amp; Networks</td>
<td>Yes</td>
<td>4/26 - 4pm - 2:45pm</td>
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<td>4/25 - 11:30am - 12:30pm</td>
<td>32</td>
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<tr>
<td>Ms. Akai</td>
<td>Health and Applied Sciences</td>
<td>Environmental Health Science</td>
<td>Yes</td>
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<td>Ms. Pasi</td>
<td>Humanities</td>
<td>Languages</td>
<td>Yes</td>
<td>Time conflict</td>
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<tr>
<td>Dr. Mlambo</td>
<td>Humanities</td>
<td>Communication</td>
<td>Yes</td>
<td>Time conflict</td>
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<td>Ms. Quest</td>
<td>Engineering</td>
<td>Vocational Training Center</td>
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<td>Time conflict</td>
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<td>Dr. Bruyns</td>
<td>Social Sciences</td>
<td>Criminal Justice and Legal</td>
<td>No</td>
<td>xx</td>
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</tbody>
</table>

Total Lecturers: 26
Total Presentations: 33
Total Students: 909
Appendix W - In-Class Presentation

WHAT IS E-LEARNING?
WHAT IS E-LEARNING?

- Using electronic devices such as online software and computers to learn
- Here at the Polytechnic:
  - Current system: Chisimba
  - Also known as MyPoly
- Transitioning to: Moodle next year – NEW FEATURES!

MYPOLY FEATURES

- Chat and Messaging
- Online Lecture Notes
- Wiki’s
- Discussion Boards
- Blogs
- Glossaries
- Mobile platform accessible!
MOBILE E-LEARNING

- Limited computer access on campus
- Smart phones offer mobile apps
- Can use on almost ANY phone with internet

WHERE CAN YOU FIND MYPOLY?

You can find MyPoly:
- through Polytechnic Webpage (or)
  - http://elearning.polytechnic.edu.na

You can find the Moodle Tutorials:
- (coming soon)
  - on Youtube or on the Student Intranet
QUESTIONS?
Wednesday 5:30
Auditorium 1
ctlprojectteam@gmail.com
Appendix X - General Student Presentation

OVERVIEW

• What is E-learning?
• E-Learning at the Polytechnic
• New Moodle Features
• MyPoly Demonstration:
  • General Navigation
  • Messaging Friends
  • Submitting an Assignment
  • Taking a Quiz
  • E-Portfolio
• E-Learning at WPI
WHAT IS E-LEARNING?

Using electronic devices to learn:
• Online software
• Computers
• SMART Boards

Here at the Polytechnic:
• Current system: Chisimba
  Also known as MyPoly
• Transitioning to: Moodle (next year)

NEW FEATURES!
MOODLE’S FEATURES

• Chat and Messaging
• Online Lecture Notes
• Online Quizzes & Exams
• Wiki’s & Discussion Boards
• Blogs
• E-Portfolio

COMPATIBLE WITH MOBILE PLATFORM

MOBILE E-LEARNING

Limited computer access on campus

• Smart phones offer mobile apps
• Can use on almost ANY phone with internet
If you do, then you can connect to the mobile platform

You can find MyPoly:
- through Polytechnic Webpage (or)
  http://elearning.polytechnic.edu.na

You can find the MyPoly Tutorials: (coming soon)
- YouTube (search MyPoly)
- Student Intranet
MYPOLY DEMONSTRATIONS

E-LEARNING AT WPI

- MyWPI
- Used Everyday
- Organize coursework
- Online Lecture Notes
MOST COMMON FEATURES

- Online Lecture Notes
- Upload and View assignments
- Review grades
- Reference Links

CONCLUSION

Moodle – Implemented February 2013
Tutorials available: (coming soon) YouTube & Student Intranet

Presentation: May 5, 2012 – 1730 – Auditorium 1
Topics:
Desert Research Foundation
Namibian Coalition on AIDS
Men on the Side of the Road
Namibian Tourism Board
Walvis Bay Corridor
Centre for Teaching and Learning
QUESTIONS?

For future questions: ctlprojectteam@gmail.com
Or mnkusi@polytechnic.edu.na
Appendices

Appendix Y - General Presentation Promotional Flier

E-Learning

Discussing The Use of Technology in Effective Learning Using MyPoly

Want to learn how technology will be used for your education at the Polytechnic?

Join Maurice Nkusi and students from the United States as they discuss with you e-learning, its benefits, and how learning can be fun.

Where? Auditorium 1

When? Wednesday 25 April

11:30-12:30
Appendices

Appendix Z - SMS Promoting General Presentation

Hello, we are students from the US. We give presentation in Auditorium 1 on 25/04/2012 at 11:30 to discuss e-learning at the Poly. Please attend to learn more!
Appendices

Appendix AA - E-Learning Flier: Front

E-Learning

What Is E-Learning?
- Having the ability to learn at anytime in any place with a connection to the internet.
- Use electronic devices including computers, and cell phones to further educational value of assigned work.

Why Use E-Learning?
- E-learning can improve the learning ability of different kinds of learners including auditory or visual students.
- It is easily accessible because it is available wherever there is an internet source and your resources are practically infinite and it can all be located in one place.

How to Get Started:
1. Access the site through the E-Poly link on the Polytechnic of Namibia Home Page.
2. Enter your username and password to login.

Follow the Link

Want to Learn More?
You can refer to the tutorial located at: http://students.polytechnic.edu.na/

Any other questions can be addressed by Mr. Maruice Nkusi or Mr. Joseph Gandanhamo at the Centre for Teaching and Learning - ctl@polytechnic.edu.na

Opportunity awaits ...
Appendix AB - E-Learning Flier: Back
Appendices

Appendix AC - Phone Flier: Front

Can’t Find a Computer? Use Your Phone!

Don’t let lack of computers keep you from accessing course assignments because if you have a phone with internet capability you can access MyPoly.

Will My Phone Work?

Take a look and find out!

A screenshot of the mobile browser
Appendices

Appendix AD - Phone Flier: Back

*Is Your Phone On The List?*

Phones

Like

These

Have

Internet

Access

If So, You Can Access MyPoly!

For More Information

Contact the Centre for Teaching:
Email - ctd@polytechnic.edu.na
Phone - Ex. 2559
Appendices

Appendix AE - Photography Release Form

Photography Release Form

I, the undersigned, do hereby consent and agree that the Center for Teaching and Learning at the Polytechnic of Namibia, its employees, or consultants have the right to take photographs, of me on April 16, 2012 and to use these in any and all media, now or hereafter known, and exclusively for the purpose of promoting e-learning at the Polytechnic of Namibia. I further consent that my identity may be revealed therein or by descriptive text or commentary.

I do hereby release to the Center for Teaching and Learning at the Polytechnic of Namibia, its consultants, and employees all rights to exhibit this work in print and electronic form publicly or privately and to market. I waive any rights, claims, or interest I may have to control the use of my identity or likeness in whatever media used. I understand that there will be no financial or other remuneration for photographing me.

I also understand that the Center for Teaching and Learning at the Polytechnic of Namibia is not responsible for any expense or liability incurred as a result of my participation in this photography.

I represent that I am at least 18 years of age, have read and understand the foregoing statement, and am competent to execute this agreement.

Name: NICALLE TULI  Signature: NICALLE  Date: 16-04-2012
Name: VHEGBA MARIA  Signature: VHEGBA  Date: 16-04-2012
Name: Helena Temu  Signature: Helena  Date: 16-04-2012
Name: Ericka Embeshu  Signature: Ericka  Date: 16-04-2012
Name: Robinson Thomas  Signature: Robinson  Date: 16-04-2012
Name: ___________________  Signature: ___________________  Date: ______________
Name: ___________________  Signature: ___________________  Date: ______________
Name: ___________________  Signature: ___________________  Date: ______________
Name: ___________________  Signature: ___________________  Date: ______________
Name: ___________________  Signature: ___________________  Date: ______________
Name: ___________________  Signature: ___________________  Date: ______________
Name: ___________________  Signature: ___________________  Date: ______________
Name: ___________________  Signature: ___________________  Date: ______________
# Appendix AF - Video Module Details

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<th>Module Name</th>
<th>Video Length</th>
<th>Description</th>
<th>Music Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1:04</td>
<td>Introduces the CTL team and explains the purpose of the modules</td>
<td>NONE</td>
</tr>
<tr>
<td>General Navigation of the MyPoly Site Page</td>
<td>2:25</td>
<td>Describes how to navigate to the MyPoly page and what the user sees on the page before logging in</td>
<td>Angels &amp; Airwaves – Everything’s Magic</td>
</tr>
<tr>
<td>Login and General Navigation of the Homepage</td>
<td>5:37</td>
<td>Shows how to login and what features the user can use on the homepage</td>
<td>Grits – My life be like</td>
</tr>
<tr>
<td>Basic Course Navigation</td>
<td>3:23</td>
<td>Shows basic navigation of a course website and available features</td>
<td>Avicii - Levels</td>
</tr>
<tr>
<td>My Profile and Password Change</td>
<td>3:23</td>
<td>Explains how to edit the My Profile feature and change a password</td>
<td>Don Omar – Donxa Kuduro</td>
</tr>
<tr>
<td>Calendar Feature</td>
<td>4:38</td>
<td>Explains how to add a calendar event and export a calendar</td>
<td>Eminem – Lose yourself</td>
</tr>
<tr>
<td>Finding and Messaging Friends</td>
<td>2:02</td>
<td>Shows how to find and add friends on MyPoly</td>
<td>The Who – Teenage Wasteland</td>
</tr>
<tr>
<td>Taking a Quiz</td>
<td>5:30</td>
<td>Shows the user how to take a quiz and the possible types of questions</td>
<td>Darude – Sandstorm</td>
</tr>
<tr>
<td>Viewing an Assignment</td>
<td>1:34</td>
<td>Shows the user how to view a course assignment</td>
<td>M.I.A. – Paper Planes</td>
</tr>
<tr>
<td>Submitting an Assignment</td>
<td>1:58</td>
<td>Shows the user how to submit an assignment</td>
<td>Mandoza – Ayoba</td>
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<tr>
<td>Wiki Feature</td>
<td>3:02</td>
<td>Explains how to use a Wiki</td>
<td>Deadmau5 – Ghosts ‘n’ Stuff</td>
</tr>
<tr>
<td>E-Portfolio Feature</td>
<td>2:55</td>
<td>Explains the E-Portfolio Feature</td>
<td>Eiffel 65 – I’m Blue</td>
</tr>
<tr>
<td>Discussion Forum Feature</td>
<td>2:52</td>
<td>Explains how to start or add information to a discussion forum</td>
<td>Coldplay – Clocks</td>
</tr>
<tr>
<td>Glossary Feature</td>
<td>1:58</td>
<td>Explains how to use the Glossary feature</td>
<td>Wiz Khalifa – Black and Yellow</td>
</tr>
</tbody>
</table>
Appendices

Appendix AG - Example of Written Documentation

Discussion Forum

This feature can be used to post questions for other students. This feature is useful because students can help each other on homework assignments.

View and Add Discussion Form Posts

1. From Homepage, select Course
2. The “” icon represents Discussion forums. Click the Discussion forum you would like to view
3. Once in the discussion forum, you can view current post by clicking on each discussion topic.

Create and Delete Posts

1. To comment to a statement, click the “Reply” link under the text of the statement
2. Post the comment by clicking the “Post to forum” button and filling in the required information
3. You can only remove a comment within 30 minutes of posting

Add New Discussion Forum

1. Once on discussion forums, select “Add new discussion topic”
2. Fill in the red fields, such discussion name and message
3. Add attachments to the post by clicking the “Add” button
4. To post your discussion click “Post to forum” on the bottom of the page