Comparative study of elearning platforms used in Kenyan universities:

Case study of Jomo Kenyatta University of Agriculture and Technology and United states International University
Presented by

Oscar Odhiambo (Msc.IT)  
Freddie Acosta (PhD)
E-learning is the aspect of using ICT technology to the learning process in institutions.

E-learning platform is the Container that delivers the content to the student for learning through the internet.
Introduction

• Universities in kenya are in the process of acquiring technology to help them in their core objective. eg structured cabling and wireless connectivity

• Some Kenyan universities with the availability of these infrastructures have implemented the e-learning strategy to enhance learning process: Implementing of open source and commercial based platforms.
Hypothesis

1. There is no difference as to the perception of students from Jomo Kenyatta University of Agriculture and Technology and United States International University to the elearning platforms.
2. There is no difference as to the perception of students from Jomo Kenyatta University of Agriculture and Technology and United States International University as to the usability and interactivity of both moodle and WebCT
CASE STUDY

JKUAT

Platform in use: Moodle platform

Moodle- Modular Object-Oriented Dynamic Learning Environment

Moodle is an open source system designed with an aim of helping educators create effective online e-learning communities. Can be downloaded and used on any scale from a single teacher to a university with 200,000 students.
USIU
WebCT : Web-bases Course tools
WebCT is an online proprietary virtual learning environment system owned by Blackboard and it is sold to colleges and other institutions for e-learning purposes. Originally developed at the University of British Columbia by Murray a member in the faculty of computer science.
The set back…..

(Problem statement)

There is low rate of acceptance characterised by the low usage of the e-learning platforms by the students.
Ellen B. Mandinach (1984) states that researchers can help stakeholders and institutions make sensible decisions about questions resulting to elearning.
Objective of the research

Evaluating the students perception on usability and interactivity of the e-learning platforms used in JKUAT and USIU
Specific Objectives

• Evaluating the students’ usability perception of Moodle and WebCT elearning platforms
• Evaluating the students’ interactivity perception of Moodle and WebCT elearning platforms.
• Develop framework to increase perception.
Sample size

- Sample size for Jomo Kenyatta University of Agriculture and Technology.
  \[= 245\]

- Sample size for United States International University.
  \[= 171\]
Issues addressed in the research
SUMI-Software Usability Measurement Utility

Usability
Efficiency: Quick and economical
Affect: Stimulating and pleasant
Helpfulness: Communicating in helpful way
Control: Response in a normal and consistent way
Learnability: The ease at which the user becomes familiar with the elearning platforms

Satisfaction: The platforms looked at whether the elearning platform is pleasant to use.

Memorability: The establishment of proficiency of using the platforms.
Interactivity

- Linear interaction
  - Listen-Read-watch
- Create-Generate (Realtime participation)
- Respond-Practice

Based on the learners actions the feedback is given to the student.

Lack of linear interaction (watch and listen)
Responses at JKUAT

- Bridging course: 6 students
- Masters: 20 students
- Computer science and maths and computer science: 50

TOTAL 76 students
Usability perception analysis

Students perception in percentage

Usability factors

- Efficiency: 51%
- Affect: 9%
- Helpfulness: 3%
- Control: 3%
- Learnability: 5%
- Satisfaction: 8%
- Memorability: 21%
Interactivity perception analysis

Interactivity factors

- Linear interaction (listen): 0%
- Linear interaction (read): 100%
- Respond - Practice with feedback: 0%
- Forum between students: 100%
- Real time communication: 0%
inactivated help Menu
The JKUAT School of eLearning

My Courses
- eLearning Home
  - SMB (Bridging Course in Mathematics)
  - SMA (Mathematics Units)

Enroll in more courses

Upcoming Events
There are no upcoming events

Go to calendar...
New Event...

Course categories
- SMB (Bridging Course in Mathematics) 5
- BCM Schedule 1
- SMA (Mathematics Units) 4
- SEL (School Of E-Learning) 2
- HCB (MBA Units) 1

Search courses: [ ] Go

Site news

Unsubscribe from this forum

Calendar
- August 2008
  - Mon 5
  - Wed 7
  - Fri 8

Google

Online Users
(last 5 minutes)
- John Mwangi

Transferring data from www.jkuat.ac.ke...
Lack of user controls
Course category:

SMB (Business Management)
- SMB0101
- SMB0102
- SMB0103
- SMB0104
- SMB0105

BCM (Business Computing Management)

SMA (Mathematics)
- SMA 3161
- SMA 3162
- SMA 3163
- SMA 3164
- SMA 3165

SEL (School of E-Learning)
- Computer Security

HCB (MBA Units)
- HCB 3206

Search courses:

Go

Course request
Availability of forum component
Linear interactivity through reading but no listening
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMB 0101</td>
<td>SMB Algebra &amp; Business Mathematics</td>
</tr>
<tr>
<td>SMB 0102</td>
<td>This course introduces the learner to the various Mathematical aspects of Geometry</td>
</tr>
<tr>
<td>SMB 0103</td>
<td>This lesson introduces the learner to the various aspects of calculus, differentiation and integration</td>
</tr>
</tbody>
</table>

**SMB 0101 Algebra & Business Mathematics**
- Administrator: Dr. J. M. Kihoro
- Administrator: Tyrus Kamau
- Administrator: Joe Kaynum
- Lecturer: Joan Gichuru
- Lecturer: Dr. J. M. Kihoro

**SMB 0102 Geometry**
- Administrator: Dr. J. M. Kihoro
- Administrator: Tyrus Kamau
- Administrator: Joe Kaynum
- Lecturer: Joan Gichuru
- Lecturer: Dr. J. M. Kihoro

**SMB 0103 Calculus**
- Administrator: Dr. J. M. Kihoro
- Administrator: Tyrus Kamau
- Administrator: Joe Kaynum
- Lecturer: Joan Gichuru
USIU
WebCT
International relations: 15
Information systems and technology- 50 students
International business relations – 10 students
Business administration-15 students
TOTAL-90 students
Usability perception analysis

Students perception in percentage

Efficiency: 51.10%
Affect: 8.90%
Helpfulness: 10%
Control: 10%
Learnability: 5.60%
Satisfaction: 5.60%
Memorability: 8.90%
Students interactivity perception

<table>
<thead>
<tr>
<th>Interactivity factors</th>
<th>Students perception in percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear interaction (listen)</td>
<td>0%</td>
</tr>
<tr>
<td>Linear interaction (read)</td>
<td>100%</td>
</tr>
<tr>
<td>Respond – Practice with feedback</td>
<td>0%</td>
</tr>
<tr>
<td>Forum between students</td>
<td>100%</td>
</tr>
<tr>
<td>Realtime communication</td>
<td>0%</td>
</tr>
</tbody>
</table>
Difficulty in finding help
Homepage - About

When you log in to your WebCT course, the first thing you see is the Homepage.

From the Homepage you can navigate to any point in your course quickly and easily.

Your Homepage at a glance | Top

Homepage includes the following features:

- a Menu Bar gives you constant access to elements such as myWebCT, Resume Course, Course Map, and Help. Click here for a further explanation of the Menu Bar.
- the title of your course
Search

About Search

Search allows you to conduct a search for text within the course. Searching is limited to course content and tools that the instructor adds to your course. This means, for example, that if the instructor does not add index, the index option does not appear in the search drop-down list.

Conducting a text search

1. From your Homepage, Organizer page, or Course Menu, click the Quiz tool. The search the Course screen appears.
2. From the Search drop-down list, select the course component that you want to search.
   Note: To search all course components, select All.
Efficiency in content delivery.
Interactivity
Linear interactivity through reading but no listening and watching.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Outline</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMB0101</td>
<td>Algebra &amp; Business Mathematics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Administrator: Dr. J. M. Kihoro</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Administrator: Tyrus Kamau</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Administrator: Joe M. Kiyimani</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lecturer: Joan Gichuru</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lecturer: Dr. J. M. Kihoro</td>
<td></td>
</tr>
<tr>
<td>SMB0102</td>
<td>Geometry</td>
<td>This course introduces the learner to the various Mathematical aspects of Geometry</td>
</tr>
<tr>
<td></td>
<td>Administrator: Dr. J. M. Kihoro</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Administrator: Tyrus Kamau</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Administrator: Joe M. Kiyimani</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lecturer: Joan Gichuru</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lecturer: Dr. J. M. Kihoro</td>
<td></td>
</tr>
<tr>
<td>SMB0103</td>
<td>Calculus</td>
<td>This lesson introduces the learner to the various aspects of calculus, differentiation and integration</td>
</tr>
<tr>
<td></td>
<td>Administrator: Dr. J. M. Kihoro</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Administrator: Tyrus Kamau</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Administrator: Joe M. Kiyimani</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lecturer: Joan Gichuru</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lecturer: Dr. J. M. Kihoro</td>
<td></td>
</tr>
</tbody>
</table>
Availability of forum component
General Chat for IST 1010 - Introduction to Information Systems

General Chat for All Courses

Note: Conversations in the following rooms will be recorded:
Room 1, Room 2, Room 3, Room 4.
Conclusions

• Passive interaction leads to the poor score in linear interactivity.
• Universities seems to have concentrated more on uploading and download of notes.
• This level of implementation will not enable the universities gain from the technology.
Recommendations

Addressing usability
• Tool tips
• Context specific help
• User control of the system
• Images to help in recognition rather than recall.
Addressing Interactivity

• Context specific animations
• Interactive quizzes
• Drag and drop activities (interactive games)
• Feedback (audio response or text response)
• Video and audio component.
• Asynchronous learning component
Framework
The need for elearning policies in the universities

- Policy formulation for elearning in the universities is very critical for the success of the elearning platforms implemented.
- Waterhouse (2004) state that in any learning environment, students should have a clear understanding of what the instructor expects from them, as well as what they can expect from the instructor.
Objectives of elearning policies by Brown (2007)

• The first objective of the policy formulation is commonly seen as policy makers draw on the experience of early adopters of elearning, or on the experience of previous adopters of e-learning.
The second objective co-exist in policy documents as policy makers continue to encourage the mainstreaming of e-learning and enhancement of its quality while seeing the potential for sector efficiencies and the need for policy alignment.
END

• THANK YOU!!