DEVELOPMENT OF A QUALITY QUIZ ASSESSMENT AND INSTRUCTOR GUIDE FOR MOODLE

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March 2012

DEVELOPMENT OF A QUALITY QUIZ ASSESSMENT AND INSTRUCTOR GUIDE FOR MOODLE

A Capstone Project

Presented to the

Undergraduate Faculty of the

Computer Studies Division

Ateneo de Davao University

In Partial Fulfillment

of the Requirements for the Degree

Bachelor of Science in Information Technology

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ABSTRACT

Moodle, or Modular Object-Oriented Dynamic Learning Environment is a free-source e-learning software platform or also known as a Learning Management System. It focuses on helping educators create online courses with a focus on interaction and collaborative construction of content, and is in continual evolution.

The proponents of this study developed a quality quiz assessment tool and instructor guide for Moodle with the aim of identifying the exams that adhere to the standards of quality, screens and analyzes improvements for a question, and suggestions for a quiz. The tool was applied to a Computer Programming 1 (CS111) subject of the Ateneo de Davao University, only for multiple choice, short-answer and true or false questions. Thus, it is a useful guide for instructors since it interprets results for the teacher.

Keywords: Exams, Test Analysis, Learning Management Systems, Quiz, Quality, Moodle Module

Chapter 1

INTRODUCTION

1.1 Background of the Study

Education in the present generation or even in the past has already set a standard of how to measure a student's intellect in the subject matter: exams. An exam is a test of student's knowledge which can be oral but in most cases written by giving him questions related to the subject matter. Exams are defined as in line with the subject and must clearly establish a firm objective in showing the student's mastery of the discussions made in formal classroom lessons. To be in line with the objectives, exams must follow guidelines which experts deemed important to assess further the student's extent of learning. In the present generation, aside from oral and written exams, exams have been implemented in the Internet and in e-learning specifically Learning Management Systems or LMS. These exams are more relaxing for the teacher given the fact that results are generated in automation but no matter how evolved examinations can be, quality will still be depending in the contents of the exam itself.

1.2 Technology Application Context (IT)

Normally, exams -- both written and electrical -- are made for a major purpose: to test if the student has learned the subject well and if the objectives specified in the prospectus has been fulfilled, yet has this purpose been achieved? In order to achieve such purpose, teachers must also know how to make quality exams which depends a lot in the questions in the exam. The sad reality is not all good teachers make such quality exams let alone effective questions. The application of this tool is to make

screen questions and exams and give advices or suggestions on how to improve exams and adhere to the standards of quality. In this way, the experience of e-learning will be enhanced.

The study focused developing an adaptive Learning Management System (LMS), specifically Modular Object-Oriented Dynamic Learning Environment (MOODLE). The proponents used Moodle because of its popularity and being open-source. For the proponents, it is necessary to study the existing operational design/framework of Moodle and implement some changes. Since Moodle has its existing libraries, the proponents used it to add functionalities through PHP and design of the learning environment in such way that it is adaptive to the teachers.

1.3 Objectives of the Study

The general objective of this research is to develop an assessment tool for quality quizzes and instructor guide for creating quality quizzes for Moodle.

The specific objectives are:

- To add functionalities in Moodle by adding PHP pages.
- To identify exams that adheres to the standards of quality.
- To create an assessment tool that screens and analyzes for improvements for a question
- To create an assessment tool that screens and suggest improvements for a quiz
- To screen and provide an evaluation again after item analysis has been done

1.4 Significance of the Study

This study is significant to faculty members who utilize their methods of teaching in LMS or use LMS in giving exams or quizzes to student. The study seeks to provide a more precision in providing questions to students and thus give a better quality of exams which can help the teachers a lot in analyzing the students' knowledge of the subject matter.

1.5 Scope and Limitations of the Study

The scope of this research study focused on the development of a quality quiz assessment tool and instructor guide for Moodle which screens and analyzes exams, and which would guide the user specifically the teachers if the question and quiz is effective or not. The tool which will be available only to Moodle version 1.9 and the sample course that is followed is Computer Programming 1 (CS111) of the Ateneo de Davao University.

The limitation of the study includes:

1. Since there are 3 domains of Bloom's Taxonomy, the study is limited only to cognitive domain.
2. The tool will ask the user to categorize his/her questions and also enter the value from item analysis table specifically from the correct facility to determine the item's level of difficulty.
3. The question screening tool will only provide suggestions for the improvements of the question stem and the alternatives/distractors.

4. In the end, the user will have the choice if he/she is to make changes or improvements from the suggestions given by the suggestion tool, if such suggestions are given.

1.6 Definition of Terms

LMS (Learning Management Systems)

A software application used for the administration, documentation, tracking, and reporting of training programs, classroom and online events, e-learning programs, and training content which can be used by students or professionals alike. (Wikipedia, 2011)

Item Analysis

A process which examines student responses to individual test items (questions) in order to assess the quality of those items and of the test as a whole. It is especially valuable in improving items which will be used again in later tests, but it can also be used to eliminate ambiguous or misleading items in a single test administration. In addition, it is valuable for increasing instructors' skills in test construction, and identifying specific areas of course content which need greater emphasis or clarity. (Office of Educational Assessment, 2011)

Quiz

A mind-game or a mind sport which respondents answer questions related to a specific topic or a subject. Usually, it serves as tools to test the respondent's knowledge of the subject area or at most, it validates the overall learning if possible.

Cognitive Domain

Involves knowledge and the development of intellectual skills. It also includes recall or recognition of specific facts, procedural patterns, and concepts that serve in the development of intellectual abilities and skills.

Level of Difficulty

There are three specific levels of difficulty. They are classified as *Easy, Moderately Difficult, and Difficult.*

Quality

The level of excellence of a person or a thing.

Multiple Choice

A form of assessment in which respondents are asked to select the best possible answer (or answers) out of the choices from a list. The format is most frequently used in educational testing, in market research and in elections. It is also used to such items as part of a large scale assessment. It consists of a stem and a set of options. The stem is the beginning part of the item that presents the item as a problem to be solved, a question asked of the respondent or an incomplete statement to be completed, as well as any other relevant information; options are the possible answers that the examiner can choose from, with the correct answer called the *key* and the incorrect answers called *distractors* (Wikipedia, 2011).

True or False

A form of assessment that offers a series of statements each of which is to be judged as true or false (The Free Dictionary, 2011).

Short-answer

Used to check recall or ability to provide names of items in graphics or pictures or specific parts, tools, words defined, etc. Short answer questions may be referred to as *fill-in-the-blank*; or *completion* questions (Penn State Learning Design Community Hub, 2010).