St. Mary's University College Testing Center

Action Research

Module Error Identification and Feedback On Agriculture and Development Studies Modules

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1.1 Background of the Study

Distance education or distance learning is a field of education that focuses on teaching methods and technology with the aim of delivering teaching, often on an individual basis, to students who are not physically present in traditional educational settings such as a classroom. It has been described as "a process to create and provide access to learning when the source of information and the learners are separated by time and distance, or both". (Encyclopedia, 2012)

The University of London claims to be the first university to offer distance learning degrees, establishing its external program in 1858. In the United States William developed the concept of extended education, whereby the research university had satellite colleges of education in the wider community, and in 1892 he also encouraged the concept of correspondence school courses to further promote education, an idea that was put into practice by Columbia University. In Australia, the University of Queensland established its Department of Correspondence Studies in 1911. (White 1982 and Encyclopedia, 2012)

Distance learning is a term that describes instructional systems which allow learners to participate in learning activities from locations other than that of the instructor or other learners. While the term was first used to describe print based courses (also known as correspondence courses), today the term is used as a synonym for online learning. The development of computers and the internet have made distance learning distribution easier and faster and have given rise to the 'virtual university, the entire educational offerings of which are conducted online. (Culatta 2011 and Encyclopedia, 2012)

Today, there are many private and public, non-profit and for-profit institutions worldwide offering distance education courses from the lower level through to the highest levels of degree and doctoral programs. (Encyclopedia, 2012)

There are two types of technologies used in distance education: synchronous learning and asynchronous learning. Synchronous learning technology is a mode of delivery where all participants are "present" at the same time. It resembles traditional classroom teaching methods despite the participants being located remotely. It requires a timetable to be organized. Web conferencing, videoconferencing, Educational television, Instructional television are examples of synchronous technology, as are direct-broadcast satellite (DBS), internet radio, live streaming, telephone, and web-based VoIP. The asynchronous learning mode of delivery is where participants access course materials on their own schedule and so is more flexible. Students are not required to be together at the same time. Mail correspondence, which is the oldest form of distance education, is an asynchronous delivery technology and others include message board forums, e-mail, video and audio recordings, print materials, voicemail and fax. (Encyclopedia, 2012)

Distance Education, by definition, involves the learner receiving tuition from a distance. This situation presents challenges to instructional design since the study materials should, as much as possible, simulate and contain all the necessary learning activities and attributes that traditional face-to-face learning provides. Therefore, the course study material should contain all that which the syllabus prescribes. The tutor should endeavor to enhance the quality of tuition during tutorial sessions. (www.smuc.edu.et)

1.2 Statement of the problem

Education is inevitable for human resource development and then national development. However, in most of the developing countries, due to the limitation of resources it is almost impossible to educate all of their citizens through on-campus teaching. Because huge amount of money is warranted to establish the infrastructure for on-campus teaching which is out of the reach of the developing countries. In these circumstances, to educate their huge population the developing countries are to depend on open learning and distance education system. (Kamal)

Major benefits of distance education are categorized in to four broad categories. Expanding access: distance education can assist in meeting the demand for education and training from the general populace and businesses, especially because it offers the possibility of a flexibility to accommodate the many time-constraints imposed by personal responsibilities and commitments. Alleviate capacity constraints: being mostly or entirely conducted off-site, the system reduces the demand on institutional infrastructure such as buildings. Making money from emerging markets: it claims an increasing acceptance from the population of the value of lifelong learning, beyond the normal schooling age, and that institutions can benefit financially from this by adopting distance education. Catalyst for institutional transformation: the competitive modern marketplace demands rapid change and innovation, for which and believes distance education programs can act as a catalyst. (Oblinger 2000 and Encyclopedia, 2012)

In distance education learners study in an independent self-learning style using specially designed learning materials and resources. Teaching and learning can be mediated through the use of technology like print, audio, video, and the internet. (University of Idaho)

Print is the foundation of distance education and the basis from which all other delivery systems have evolved. The first distance-delivered courses were offered by correspondence study, with print materials sent and returned to students by mail. While technological developments have added to the repertoire of tools available to the distance educator, print continues to be a significant component of all distance education programs. Advantages of print includes print materials can be used in any setting without the need for sophisticated presentation equipment and it is instructionally transparent, non-threatening, easy to use, easily reviewed and referenced, cost-effective, easily edited and revised and time-effective. Despite its advantage it also has its own limitation. The limitations of print includes: limited view of reality, passive and self-directed, feedback and interaction, dependent on reading skills. (University of Idaho)

The instructional material for distance learner should have to be prepared with utmost precaution. Because the student relay on the fact presented on the instruction material. Error in modules and other teaching materials has a problem for the learner. A review made in different countries showed that some textbooks published contain false, misleading, and otherwise objectionable information**.** Science and biology in particular, seems to be a frequent victim of flagrant misinformation in the textbook industry. Apparently no lesson plan is safe from the vague wording, bizarre leaps of logic or downright incorrect presentation of facts. (CNN Tech, 2002 and Degree Scout, 2012)

In Ethiopia students interact with their instructors during tutorial classes where they get the chance to ask any misunderstood concepts, otherwise they will be responsible to understand all the concepts of the course material by their own and this depends on the clarity of concepts present in the course material/module.

Thus the present study is designed to estimate the extent of misleading contents in agriculture and development studies modules. Staying on top of all your classes at school isn't easy at the best of times. Studying, writing papers, passing tests, keeping track of all those facts and figures from five or more subjects at a time its all some students can do to keep up. So how much harder must it be to manage one's studies when faced with the added task of sorting out fact from fiction in the course material/module by themselves. And yet this is a problem in textbooks and other teaching materials at all grade levels, in every subject, all over the country. Thus the present study is designed to estimate the extent of misleading contents in Agriculture and Development Studies modules.

1.3. Objective

1.3.1 General objectives: To estimate the extent of misleading contents in agriculture and development studies course material/modules

1.3.2 Specific objectives

- To determine the type of errors in agriculture and development studies course material/modules
- To quantity the errors in agriculture and development studies course material/ module

1.4 Significance of the study

Students usually relay on the fact which is written on the module. Any misleading content in the course material/module will compromise the quality of teaching learning process, specially for distance education learners, because they have minimum access to discuses any confusion that come to their mind relative to regular program learners even minor errors in the course material/module misleads them. So the present study is expected to assist the academic program office in producing quality course materials by providing input that can be used during course material/module revision.

1.5 Scope and Limitation of the Study

The scope of this study is limited to the course material/modules of Agriculture and Development Studies Department of the Testing Center. Time constraint was the most influential one is the data collection process was preformed along with day to day assessment tool preparation activities of assessors.

2. Literature review

A study was conducted on Texas. In the study, a detailed error analysis was performed to determine if patterns of errors existed in braille transcriptions. According to their finding the most frequently occurring errors were the insertion of letters or words that were not contained in the original print material; the incorrect usage of the emphasis indicator; and the incorrect formatting of titles, exercises, and directions. (Herzberg, 2010)

Another study was conducted in Texas to analyze errors in the Supplemental Biology Instructional Materials. According to their report eight "errors" in the supplemental biology instructional materials were identified by a single person. (Schafersman, 2011)

In 2002, CNN reported on the results of a study conducted by physics professor John Hubisz to ascertain the accuracy of the information being presented in middle school science books. Hubisz and a team of other professors examined dozens of textbooks and uncovered a startling amount of information that was unclear, contradictory, or blatantly incorrect. After completing the study, Hubisz set up a website, where teachers can post errors they find in textbooks. But he also told CNN that while some publishers are receptive to the criticisms and willing to fix the errors, many are not. (Degree Scout, 2012)

According to John Hubisz and friends review on many U.S. textbooks, the information in the books is often unfocused, fragmented, and sometimes downright wrong. Hubisz examined dozens of physical science texts for middle schools, and found scores of errors. Among them:- A map showing the equator running through Texas and Florida, when it's actually about 1,500 miles south.- A discussion of sound that says humans cannot hear below 400 hertz. But 47 notes on a piano are below 400 hertz. - Details of the Statue of Liberty, explaining her "bronze outer structure." The statue is copper. - A picture of the Statue of Liberty with the torch in her left

hand. It's in her right hand.- Pictures of prisms bending light the wrong way.- Periodic tables not updated years after new elements have been added.- A compass with East and West reversed.- Chemistry formulas and Physics laws that are so "simplified" they are completely wrong. (CNN Tech, 2002)

Texas State Board of Education found a total of 109,263 errors in the math textbooks being reviewed for use in the 2008 school year. The study of mathematics is supposed to be nothing if not precise. The entire point of any mathematical equation is to get the same answer every time; consistency is what makes math the most reliable way to measure, well, everything. The finding showed that not all of the errors were in the arithmetic; some textbooks had accidentally printed the answers to the quizzes at the end of each chapter, while others had incorrect translations from the English to the Spanish versions. But, a hefty number of the errors were in the numbers themselves. (Degree Scout, 2012)

On the contrary a study carried out in USA stated that comparing common mathematical errors to correct examples may facilitate learning, even for students with limited prior domain knowledge. We examined whether studying incorrect and correct examples was more effective than studying two correct examples across prior knowledge levels. Fourth- and fifth grade students (N¼ 74) learned about decimal magnitude in a brief tutoring session. Students were randomly assigned to two conditions: 1) comparing correct and incorrect examples (incorrect condition) or 2) comparing correct examples only (correct condition). The incorrect condition helped students learn correct procedures and key concepts more than the correct condition, including reducing misconceptions. Students' prior knowledge of decimals did not interact with condition. Students' explanations during the intervention revealed that those in the incorrect condition more frequently discussed correct concepts (e.g., the magnitude of decimal and identifying misconceptions). Overall, contrasting incorrect examples with correct examples can help students learn correct concepts and procedures. (Durkin et al, 2011)

3. Research Design and Methodology

3.1. Study Design

A cross sectional study was conducted to estimate the extent of misleading contents in agriculture and development studies modules

3.2. Study Site

The study was conducted at Testing Center of St. Mary's University College. It is part of the University College which established to prepare standardized assessment tools (Assignments, Projects and Exams) for Distance Education Learners.

3.3. Source of Data

The data were collected from modules of 75 courses which were examined from June to December 2011 during Exam and Assignment preparation by asses for of Testing Center

3.4. Study variables

- Spelling error
- Mathematical error
- Grammar error
- Conceptual error

* Missing of ideas

* Objective and content disagreement

3.5. Quality Assurance

To get reliable result quality control is mandatory. Each error was examined by the principal investigator, moreover the identified error was confirmed by reference to other source.

3.6. Data Analysis

The collected data was analyzed using Excel and Quantification of errors was done

4. Result

A total of 90 errors were identified in 35 courses after examining 75 courses, the errors were categorized in to spelling, mathematical, conceptual, grammatical, mismatched objective and idea errors. Among this 55 spelling, 6 mathematical, 10 conceptual, 5 grammatical, 3 missing of ideas and 11 objectives and content disagreement errors were identified in 35 course material/modules.

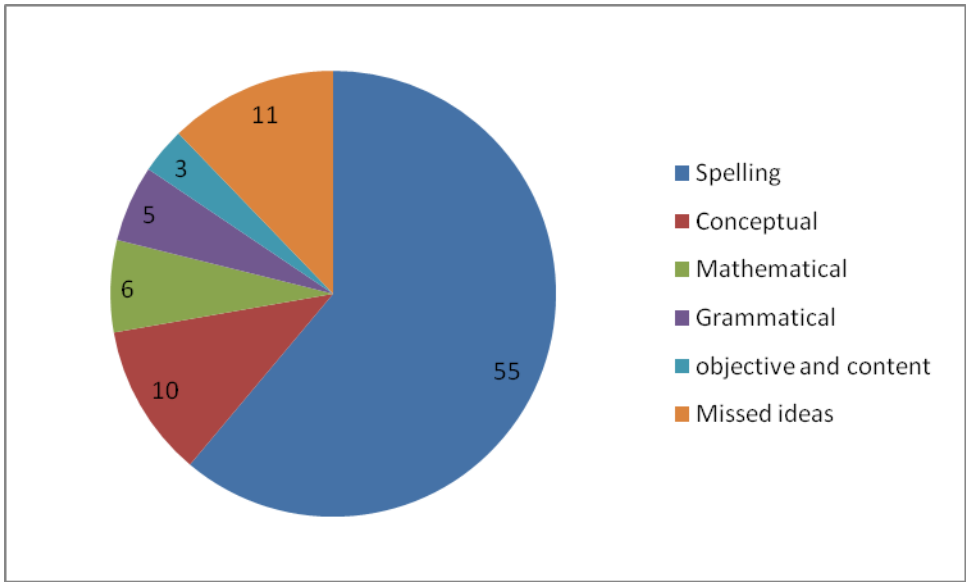

Figure 1: Type of errors identified

A total of 75 courses were assessed for misleading contents. From them errors were identified in 35 courses from those 35 courses, 10 courses from Agribusiness Management, (ABM) 8 from Rural Development. (RUDE), 6 from Finance and Development Economics (FNDE), 7 from Cooperatives, 2 from common course and the rest 2 were from Agricultural Economics.

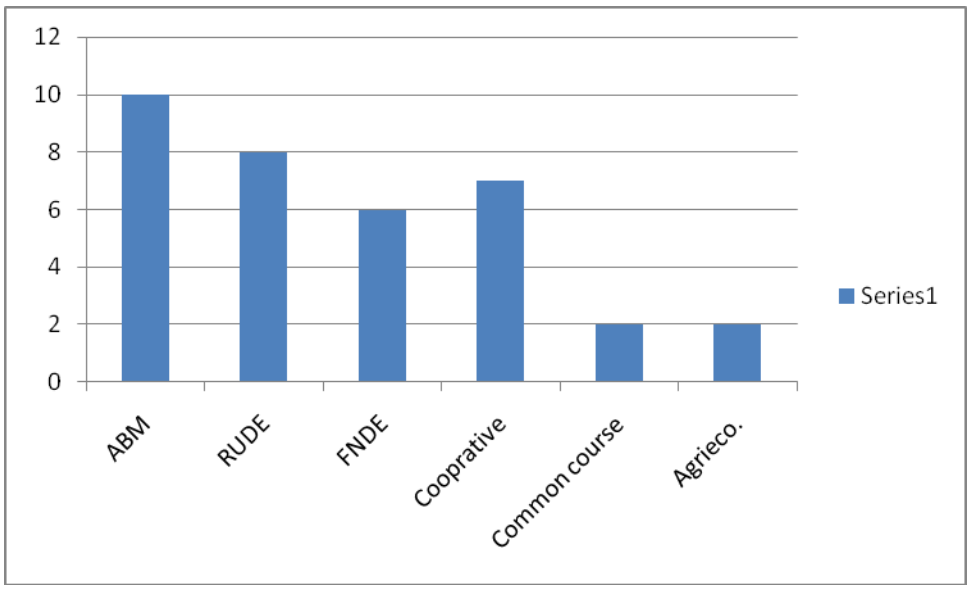

Figure 2 Course distribution in department

The errors were classified in each department. A total of 55 spelling error were identified. The highest spelling errors were 18 and the least was one. From 6 mathematical errors the highest mathematical error was 2 in two departments. Among 10 conceptual errors 5 were in one department. From 5 grammatical errors the highest number of errors were 3 in one department. From 11 missing of idea two departments have each 4 errors. From 3 objective and content disagreement errors 3 departments have one error for each.

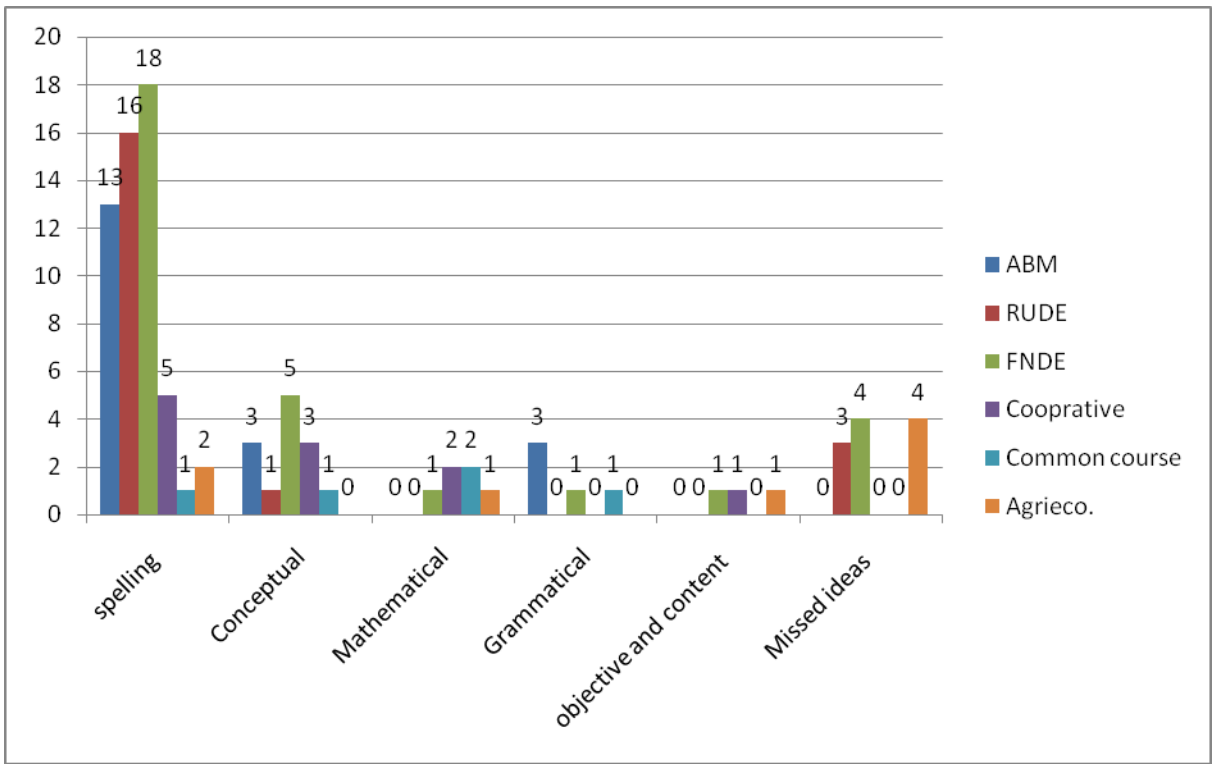

Figure 3: Error in each department

5. Discussion

Students usually rely on the facts which are written in the modules. Any misleading content in the module will compromise the quality of teaching learning process especially for distance education learners. Several studies showed that errors could be found in print materials. (Herzberg, 2010, Schafersman, 2011 and Degree Scout, 2012)

In the present study 75 modules were assessed and errors were identified in 35 modules. Among these 55 spelling error were identified in all departments. As indicated by Herzberg finding and in the present study misspelling is the commonest error in print materials. (Herzberg, 2010)

The study of mathematics is supposed to be nothing if not precise. Information that are unclear, contradictory, or obviously incorrect are hard to manage by the students. (Degree Scout, 2012) In the present study 6 mathematical, 10 conceptual and 5 grammatical errors were identified. In Distance Education learners study in an independent self-learning style using specially designed learning materials and resources. The instructional material for the distance learner should be prepared with utmost precaution. The students relys on the facts presented in the instruction materials. Errors in course material/modules and other teaching materials create problems for the learner. Thus the errors might result in confusion and misunderstanding in the student. Moreover, it creates difficulties in managing one's studies when faced with the added task of sorting out fact from fiction in the course material/modules

6. Conclusion and Recommendation

6.1 Conclusion

Assessing the course material/modules for any possible errors is a means to identify and correct errors if there are any. In the present study having examined modules of all 75 courses, 55 spelling, 6 mathematical, 10 conceptual, 5 grammatical, 11 objective and content disagreement and 3 missing of ideas errors were identified in 35 course materials.

6.2 Recommendation

Based on the finding the following recommendations are forwarded:

- Periodic revision of the course material/modules is needed to improve the quality of the information presented in the modules
- Standard format need to be distributed for all the assessors to provide feedback for any errors identified when they do their routine work.
- It would be good to have a responsible personnel at the College of Open and Distance Learning assigned to collect feedbacks forwarded by assessors.

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