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Dear TOJDE Readers,

Welcome to the Volume 16, Number 3 of TOJDE,

In this issue there are 9 articles and 1 book review. The articles are written by 19 authors from 8 different countries. These countries are Australia, India, Indonesia, Iran, Malaysia, Nigeria, Philippines, and Turkey.

The 1st article is written by Dr. Meltem Huri BATURAY and Dr. Erman YUKSELTURK. The title of the article is THE ROLE OF ONLINE EDUCATION PREFERENCES ON STUDENT’S ACHIEVEMENT. This article highlights the growing situation of online education with the development of new communication technologies. Effective learning environments and learners’ achievements are important issues in online learning. Learners’ preferences, expectations and needs are considered to reach qualified and effective online courses.

The 2nd article is titled TURNITIN? TURNITOFF: The Deskilling of Information Literacy, and written by Tara BRABAZON. The article focuses on software like Turnitin and explains alternative strategies for university staff and students how to avoid plagiarism.

LEARNERS’ SATISFACTION LEVEL WITH ONLINE STUDENT PORTAL AS A SUPPORT SYSTEM IN AN OPEN AND DISTANCE eLEARNING ENVIRONMENT (ODeL) is the 3rd article. This article is written by Percia V. SECRETO and Rhodora L. PAMULAKLAKIN. According to authors, effective and responsive learner support services will help learners succeed in an open and distance e-learning to reach their goals. Five elements of the online student portal were being evaluated in the article as functionality, efficiency, appearance, ease of use and security. The study determined the satisfaction level of the learners who used the existing online student portal of the University of the Philippines Open University.

The 4th article is written by Dr. Ademola Johnson ADEWARA and Dr. Olufunke LAWAL. NEW TECHNOLOGIES AND SCIENCE TEACHERS EDUCATION WITHIN THE CONTEXT OF DISTANCE LEARNING: A Case Study for the University of Lagos is the title of the article. The article explored the contribution of Science Teacher Education within the context of Open and Distance Learning in the following areas: time spent on electronics devices, skill development in the use of computer technologies and applications, Extent of use of IT in courses and course management system features. A survey method was used in the study. The result shows that science teachers trained at Distance Learning Institute, University of Lagos under the new technologies of e-learning, e-teaching have shown significant improvement in content knowledge and perception of pedagogical styles.

The 5th article is titled MECHANISM OF F2F STUDENT SUPPORT IN OPEN AND DISTANCE LEARNING SYSTEM: Indian Experience, and written by Dr. Anil K. DIMRI. This article seeks to analyze the system of face to face program delivery adopted by Indira Gandhi National Open University(IGNOU) for its distance learners over a period of two and half decades. Also, this article is analyzed the growth in student enrolment, new schemes of face to face program delivery was developed and implemented and some of them have made significant contribution in developing a suitable network.

The 6th article is written by Meirani HARSASI. This article is titled THE USE OF OER IN ONLINE LEARNING: A Study of Students’ Perception. This article is aimed to collect data from students of Universitas Terbuka, Indonesia, about their acceptance of integrating online educational resources (OER) into e-learning. The achievements of the students and limitations of OER are discussed in the article.
EFFECTIVENESS OF THE FORUM METHOD FOR THE SELF DEVELOPMENT COURSE IN UKM AND ITS LINK WITH STUDENT INTEREST is the 7th article and written by six authors. Wan Zulkifli WAN HASSAN, Ezad Azraai JAMSARI, Mohamad TAHA, Aminudin BASIR @ AHMAD, Jamsari ALIAS and Nazri MUSLIM are the authors. The action research in the article was aimed at analyzing the effectiveness of the forum as an alternative method of teaching and learning of the Self Development Course.

The 8th article is titled THE EFFECTIVENESS OF A VIRTUAL FIELD TRIP (VFT) MODULE IN LEARNING BIOLOGY, and written by Norbaizura HARIS and Kamisah OSMAN. Integration of technology in the form of the Virtual Field Trip (VFT) module is one method that can bring students closer to nature. The study is concluded that teaching and learning by using the VFT module, integrated with ICT, has a positive impact on student achievement when compared to conventional methods.

The 9th article is written by Dr. Faranak OMIDIAN and Farzaneh NEDAYEH ALI. STUDY ON THE ATTITUDES OF STUDENTS, INSTRUCTORS, AND EDUCATIONAL PRINCIPALS TO ELECTRONIC ADMINISTRATION OF FINAL-SEMESTER EXAMINATIONS IN PAYAME NOOR UNIVERSITY IN IRAN is the title of this article. The aim of this study is to investigate the attitudes of students, instructors, and educational principals to electronic administration of final-semester examinations at undergraduate and post-graduate levels in Payame Noor University in Khuzestan. The results showed that the attitudes of students, instructors, and educational principals to electronic administration of examinations are positive.

In this issue a book is reviewed. The title of this book is DEVELOPING ONLINE LANGUAGE TEACHING: Research-Based Pedagogies and Reflective Practices. Regine Hampel and Ursula Stickler are the editors. This book is reviewed by Hasan UCAR.

Hope to meet again in the next issue of TOJDE
Cordially,

Dr. T. Volkan YUZER
Editor-in-Chief
THE ROLE OF ONLINE EDUCATION PREFERENCES ON STUDENT’S ACHIEVEMENT

Assoc. Prof. Dr. Meltem Huri BATURAY
Distance Learning Research & Implementation Center
Ipek University, Ankara, TURKEY

Assoc. Prof. Dr. Erman YUKSELTURK
Department of Computer Education and Instructional Technology
Faculty of Education, Kirikkale University, Kirikkale, TURKEY

ABSTRACT

Online education has expanded and is expected to continue growing rapidly in time along with technological innovations. It is obvious that there is a movement toward online learning which necessitates the need of more empirical evidence on effective learning and learners’ achievement. This study investigated effect of the variables: demographics (age, gender, being employed/unemployed, and computer efficacy); Internet self-efficacy; satisfaction (student-student, student-instructor, student-content interaction); and the reasons for online education preferences of students’ on their achievement. Differing from previous studies the current study particularly investigates the effect of students’ reasons for their preferences of distance education on their success besides all other variables. The results indicated that there is a positive correlation between students’ reasons for their preferences of distance education and their achievement scores which was measured by their final test scores. Besides, according to results of the regression analyses, preferences related to achievement was the only variable to affect regression equation in the online course regression analyses. That was accounted for about 5.1 % of the variance in students’ final grades.

Keywords: Online learning; distance education; preference; achievement; satisfaction; demographics; Internet self-efficacy.

THE ROLE OF ONLINE EDUCATION PREFERENCES ON STUDENT’S ACHIEVEMENT

It is not as easy to inspect the differences in student learning in online settings as in traditional ones. There is a broad range of constructs as proven predictors of academic achievement in online learning environments (OLEs). And these constructs or factors have been classified differently by different researchers (Blocher, Montes, Willis & Tucker, 2002; Ergul, 2004; Lim, Morris & Yoon, 2006; Schrum & Hong, 2002; Yukselturk & Bulut, 2007). For example, Schrum and Hong (2002) identified and confirmed seven dimensions significant for successful online learners which were; access to tools, technology experience, learning preferences, study habits and skills, goals or purposes, lifestyle factors, personal traits and characteristics.

Demographics such as gender, age, being employed or unemployed, learners’ Internet or computer self-efficacy, their characteristics and learning styles etc. are some other constructs to affect students’ achievement in OLEs. Online learners are expected to have
a certain level of technical skills, prior computer experience and knowledge to successfully engage in online learning (Lim & Kim, 2003; Wojciechowski & Palmer, 2005).

If this does not happen, provision of a pre-course orientation for first-time virtual students is important as suggested by Roblyer, Davis, Mills, Marshall, & Pape (2008). In fact, this should be a requirement in all virtual schools. Regarding instructional characteristic and learners’ cognitive style, Güngör and Akar (2004) found field-independent learners to be more successful than field-dependent learners on their study investigating the effects of e-learning and cognitive style on achievement and perceived Internet self-efficacy.

Online learners’ ability to self-regulate, self-monitor their learning and resources, self-awareness of motivation and cognitive/metacognitive strategies are vital due to the isolated learning environment (Blocher, Montes, Willis & Tucker, 2002). Self-regulation is defined as “self-generated thoughts, feelings, and actions that are planned and cyclically adapted to the attainment of personal goals” (Zimmerman, 2000, p. 14). Grabinger and Dunlop (2000) claimed OLEs require self-directed learning affording greater opportunities for individualization and flexibility. To Ergul (2004), high motivation, maturity and self-discipline are general characteristics of successful learners in distance education programs and self-efficacy of distance education was found significantly correlated to students’ academic achievement. Similarly, in her study, Lim (2001) indicated self-efficacy in computer knowledge to be the only significant variable predicting achievement.

It is obvious that there is a strong cause and effect relationship between motivation and achievement. Lim and Kim (2003) grouped online learning motivation variables as:

- reinforcement,
- course relevance,
- interest,
- self-efficacy,
- affect, and
- learner control.

The motives of learners could as well be categorized as intrinsic and extrinsic ones. To Mandernach, Donnelli and Dailey-Hebert (2006) external factors: time, technology, initiative and competence emerge as the most predictive of learner success. According to the results of Song, Singleton, Hill and Koh’s study (2004) most learners agreed that course design, learner motivation, time management, and comfortableness with online technologies impact the success of an online learning experience. Particularly, students’ levels of intrinsic and extrinsic motivation seem to be a more accurate predictor of student success and persistence (Shih & Gamon, 2001).

Interaction is claimed to be one of the other most important elements of online learning (Moore, 2001). It appears that to benefit from interaction-related tools of e-learning classrooms positively influence the achievement and satisfaction of learners (Bouhnik & Marcus, 2006). Online or e-learning implies a technology-mediated interactive learning environment through which collaboration and group interaction is actively supported for educational practice (Blocher, Montes, Willis & Tucker, 2002). Study groups and contacts with the instructor were reported to be positively contributing to learners’ success (King, Harner, & Brown, 2000).

This study aims to investigate affect of the variables: demographics (the age, gender, employed/unemployed, computer knowledge); Internet self-efficacy; interaction (student-student, student-instructor, student-content); and the reasons for online education preference of students’ on their achievement. Differing from previous online students’ achievement studies, this study particularly focuses on the effect of online
education preferences of students on their achievement. Thus, the study tries to find answer to the following major research question:

- What is the extent to which selected variables (gender, age, employed/unemployed, computer knowledge, Internet self-efficacy, reasons of preferences, student-student and student-content, student-instructor interaction) could account for students’ achievement in an online course?

METHOD

This study examined the relationship between various student characteristics and achievement in an online course. It adopted correlational research design which was used for the explanation of important human behaviours and for the exploration of relationships between variables (Fraenkel & Wallen, 2000). Thus, the data was quantitatively collected for the analysis.

Subject of the Study

This study included the students who were enrolled in an online elementary-level English language course taught entirely through a Learning Management System. In this study the researchers utilized the convenience sampling. According to Fraenkel and Wallen (2000), the sample that is easy accessible is convenience sample.

Originally, 450 students attended to the course; however, this study included the ones who were volunteers to participate in the study (N=148). The number of male participants (N= 95) was greater than the number of female participants (N=53), and the participants’ age ranged from 18 to 35. The majority of the participants’ ages were between 18 and 25 (76%). Besides, nearly half of the students had a part-time or full-time job (48%).

Description of the Online English Language Course

The online English language course was entirely given via the Internet through a Learning Management System (LMS) that consisted of the following set of tools:

- content management tools that allowed the course instructor to present multimedia content, supplementary course materials, and course weekly schedule;
- assessment tools such as online test/exam preparation, online testing and test/exam question pool;
- student tools such as student lists, students’ reports and student grade book;
- communication and collaboration tools, that consisted of e-mail, net meeting, announcements, discussion boards and an agenda to take personal notes.

The English language course content included sections on vocabulary, grammar, reading and writing, listening, and speaking. The grammar was supported with video recorded tutoring in which the instructor taught grammatical structures in the students’ native language, Turkish.

The instructor met with the students through weekly meetings which were implemented through text-based chats. Students had the opportunity to ask questions at real-time about issues that hadn’t been understood well. After answering all questions of the students and reviewing incomprehensible issues together with her students, the instructor conducted a language drill and practice activity in each weekly session. Students could interact with their peers asynchronously using the text-based discussion board, as well. The instructor monitored all students’ postings (Author, 2010).
Instrumentation

- To collect relevant data, the following instruments were used: The Demographics Survey, Distance Education Preferences Survey, An Internet Self-efficacy Scale and The Course Evaluation Survey (CES).
- The Demographics Survey: It included items that addressed the students’ age, gender, employed/unemployed (their current situation of being employed/unemployed), and computer efficacy level.
- Distance Education Preferences Survey: Adapted from Qureshi, Morton & Antosz (2002), the survey was used to measure the reasons for students’ preferences of online education mode instead of on-campus mode. The answer ‘very true’ received a score of 5 and the answer ‘not true at all’ a score of 1. The scale included 14 items such as “Transportation difficulties made it difficult for me to get to the campus (e.g., poor bus service, or lack of parking, etc.)”, “I don’t want to go to school full-time”, “My physical disabilities made it difficult for me to attend on-campus courses”.
- Internet Self-efficacy Scale: Adapted from Joo, Bong and Choi (2000), this scale was used to determine the perceived capability of students to use the Internet. The scale had a high internal consistency as demonstrated by the Cronbach’s of .95. There was a five-point Likert-type scale of potential responses: Very true, mostly true, somewhat true, mostly not true, and not true at all, with assigned values between 5 and 1. The answer ‘very true’ received a score of 5 and the answer ‘not true at all’ a score of 1. The scale included 13 items and was administered shortly after the semester began. The scale was piloted for Turkish online students and Cronbach’s coefficient alpha of .90 was found for the scale (Author & Bay, 2010).
- The Course Evaluation Survey: The Course Evaluation Survey was used to evaluate students’ perceptions of satisfaction with the online course. It was prepared and administered using Web Builder developed by North Carolina State University’s College of Agriculture and Life Sciences (CALS) to be administered to students enrolled in university courses (Lucas, 2007). It consists of 3 sub-parts for evaluating learner-to-learner, learner-to-content and learner-to-instructor interaction within the course with 31 items in total. Cronbach’s coefficient alpha was .94 for the learner-to-learner interaction subscale, .90 for the learner-to-content interaction, and .96 for learner-to-instructor interaction. There was a five-point Likert-type scale of potential responses: strongly agree, somewhat agree, agree, somewhat disagree, and strongly disagree. The assigned values for each item ranged between 5 and 1, with 5 for the answer “strongly agree” and the value 1 for the answer “strongly disagree”. The course evaluation survey was piloted and Cronbach Alpha was measured .92 (Author, 2010).
- Achievement Test: It was a teacher-produced proctored test that consisted of 25 multiple choice questions and measured students’ learning. Each correctly answered question is scored as 4 points with 100 possible points. The test was taken face-to-face by the online students at the end of the semester.

Data Collection and Analysis

Data was collected in the 2008-2009 fall semester from the students who attended Online English Language Course in a distance education program at a higher education institution in Turkey. Data was collected through several online questionnaires. Data regarding demographics, reasons for online education preferences and internet self-efficacy of students were collected at the beginning; whereas, course evaluation (satisfaction) with achievement scores were collected at the end of the semester. Based on collected data, nine independent variables (four categorical: gender, age, being employed/unemployed, computer efficacy level and five continuous: Internet self-efficacy, reasons for students’ preferences of online education, student-student interaction, student-content interaction, student-instructor interaction) were extracted. The dependent variable, students’ final test scores, was extracted
based on the achievement test (instructor-produced proctored test) at the end of the course. Descriptive and inferential statistics were used to analyze the quantitative data. At the descriptive level, simple means and frequency distributions were employed.

At the inferential level, Pearson product–moment correlation coefficients (Pearson r) were used to determine any statistically significant relationships (p=<.01) between each selected independent variable and the student final test grade obtained in the online course. A regression analysis was performed to obtain an estimate of the percentage of variance within the final test grade a student received as accounted for by the various independent variables.

RESULTS

Descriptive Statistics
Table 1 shows the descriptive statistics (range, min, max, mean, standard deviation) of the variables, Internet self-efficacy (self-efficacy), reasons for students' preferences of online education, (preferences), interactions (student-student, student-content, student-instructor) and achievement scores. As indicated in Table 1, students had quite high perceived Internet self-efficacy (mean = 59.7 out of 65) and students' preferences of online education were generally low (mean = 29.6 out of 70). Also, most students thought that they interacted with other students (mean = 36.1 out of 50), content (mean = 39.8 out of 50) and teacher (mean = 44.6 out of 55).

<table>
<thead>
<tr>
<th>Predictors</th>
<th>N</th>
<th>Range</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td>self-efficacy</td>
<td>148</td>
<td>41</td>
<td>24</td>
<td>65</td>
<td>59.7</td>
<td>6.1</td>
</tr>
<tr>
<td>preferences</td>
<td>148</td>
<td>36</td>
<td>14</td>
<td>50</td>
<td>29.6</td>
<td>8.1</td>
</tr>
<tr>
<td>s-s interaction</td>
<td>148</td>
<td>35</td>
<td>15</td>
<td>50</td>
<td>36.1</td>
<td>7.9</td>
</tr>
<tr>
<td>s-c interaction</td>
<td>148</td>
<td>36</td>
<td>19</td>
<td>55</td>
<td>39.8</td>
<td>7.2</td>
</tr>
<tr>
<td>s-t interaction</td>
<td>148</td>
<td>40</td>
<td>10</td>
<td>50</td>
<td>44.6</td>
<td>6.3</td>
</tr>
<tr>
<td>final grade</td>
<td>148</td>
<td>88</td>
<td>8</td>
<td>96</td>
<td>50.1</td>
<td>19.3</td>
</tr>
</tbody>
</table>

Correlation and Regression Analysis
The Pearson r was the correlation index that used to measure the degree of relationship between nine independent variables and the dependent variable of student achievement in the online course.

<table>
<thead>
<tr>
<th>Variables</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td>0.49</td>
<td>0.13</td>
<td>0.26*</td>
<td>0.01</td>
<td>0.30*</td>
<td>-0.08</td>
<td>0.13</td>
<td>-0.02</td>
<td>0.08</td>
</tr>
<tr>
<td>2. Age</td>
<td>0.29*</td>
<td>-0.09</td>
<td>0.15</td>
<td>0.20</td>
<td>0.07</td>
<td>0.10</td>
<td>0.09</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td>3. Employment</td>
<td>0.04</td>
<td>0.08</td>
<td>0.17</td>
<td>0.04</td>
<td>0.07</td>
<td>0.01</td>
<td>-0.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Comp. know</td>
<td>0.07</td>
<td>0.14</td>
<td>0.16</td>
<td>0.04</td>
<td>0.02</td>
<td>0.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Self-effica.</td>
<td>-0.02</td>
<td>0.05</td>
<td>0.02</td>
<td>0.04</td>
<td>0.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Preferences</td>
<td>0.05</td>
<td>0.33</td>
<td>0.03</td>
<td>0.23*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. s-s interact.</td>
<td>0.10</td>
<td>0.11</td>
<td>-0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. s-c interact.</td>
<td>0.5*</td>
<td>0.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>9. s-t interact.</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Final grade</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<0.01
Table: 2 summaries the correlation results, and whether they are significant or not (at the p =<0.01 level). Results indicate that a statistically significant relationship exists between student’s final test scores and reasons for their preferences of online education.

In addition, a linear regression analysis was performed to estimate the percentage of variance accounted for the final test grade a student receives, using various independent variables. The goal of regression analysis was to create a predicting equation that was close to reality without using more variables than necessary to make an accurate prediction of student achievement. According to the results, only one variable (preferences) explained a significant amount of variance in students’ achievement, R²=0.051, adjusted R²=0.044, F(1,147)=7.844, p=0.006. 5.1 percent of the variances are explained by this variable. The other variables were excluded from the equation of predicting students’ achievement because they did not have a significant contribution to variance in their final test grades.

**DISCUSSION**

There exist a great number of studies investigating the factors that contribute to achievement of online learners in the literature. These factors might be gathered under the following categorization:

- demographic characteristics, such as, age, gender, and employment;
- individual characteristics, such as, preferences, technical skills, and needs;
- self-regulated learning strategies, such as, self-efficacy, self-regulation, self-awareness;
- motivation, such as, intrinsic and extrinsic goal orientation, locus of control
- interaction, such as, student-student, student-content, student-teacher; (Blocher, Montes, Willis & Tucker, 2002; Ergul, 2004; Schrum & Hong, 2002; Wojciechowski & Palmer, 2005; Yukselturk & Bulut, 2007).

It is well-known that online learners are expected to behave different from traditional learners in order to be successful in the OLEs since OLEs do not correspond with traditional face-to-face learning environments with the facilities they provide and the requirements they entail, and they often ascribe an extra burden on the learners. Thus, there is much more research needed that investigates the needs and characteristics of online learners and the factors leading them to success. In the current study, the researchers examined various student characteristics and their relationship to achievement in an online course. For this aim, the effect of nine learner characteristics on students’ achievement was investigated in the online course. These characteristics were: gender, age, employment, computer efficacy level, Internet self-efficacy, reasons for their preferences of online education, student-student, student-content, student-instructor interactions. The results indicated that there is a positive correlation between students’ reasons for their preferences of online education and their achievement which was measured by their final test scores. Besides, according to results of the regression analyses, preferences related to achievement was the only variable to affect regression equation in the online course regression analyses. That was accounted for about 5.1 % of the variance in students’ final grades.

Rovai, Ponton, Wightning and Baker (2007) stated the advantages of online learning as ease of access, flexibility in teaching and learning approaches with enhanced educational opportunities for students. Time constraints, travel costs, and conflicting work schedules of face-to-face learning are often cited as reasons for engaging in online courses. Some of the other advantages of online learning are stated as individualized instruction, use of interactive learning materials (Gratton-Lavoie & Stanley, 2009), convenience or flexibility at which one can study and a more student centered way of learning (Broadley & Trinadad, 2008; Murray, Casey & Fraser, 2007).
These advantages are stated to have a significant impact on students’ preferences for online learning. Similar to previous findings regarding advantages of online mode of learning compared to face-to-face mode, this study indicates that the reasons for students’ preference of online learning might highly affect their achievement. That is, the students who preferred online education based on some of the advantages were found to be more successful than others. Therefore, the students who are more eager and determined to participate in an online learning experience taking account of some of its advantages are expected to be more successful.

Thus, it is supposed that when online learners start an online course, they first ensure whether the course or program meets their expectations, which are likely to affect their success. If students’ expectations are not met, they probably will not be successful at the end or will probably dropout from the online course/program. Regarding this, Chyung (2001) suggested tracking of online learners which refers to the fact that initial active involvement of students in online courses predicts their success. It is stated that students who are active in the first few weeks of the class are more likely to be successful in the course and dropout behaviour is most likely to occur in the early weeks of the course (Chyung 2001). This finding might be related to the fact that after students have experienced that their expectations are not met, they are likely to dropout the course. Similarly, Wang and Newlin (2002) suggest online instructors that they should consider the reasons why students enroll in their classes and they should closely monitor the on-line, course-related activity of their students. To them students’ early behaviors are correlated with their final grades.

CONCLUSION

It is known that all students could not be successful in an educational environment, particularly, when it is in an online environment. They could not accomplish the course requirements and finally they fail the course just because of their expectations are not met. Meeting learners’ expectations such as provision of a flexible and individualized, interactive, user-friendly, easily accessible and an effective learning environment is important for their success.

Any organization willing to increase the number of enrollments in and qualification of its online courses or programs should build up & sustain learners’ satisfaction and yield successful graduates. Similarly, any designer willing to design a qualified and effective online course should, therefore, give priority to meeting learners’ preferences, expectations and needs.

The current study might be useful in identifying characteristics of successful and high-risk students in online education and contribute to the drop-out studies. It is believed that high quality online learning environments can be designed through early interventions.

As a recommendation for further studies, examining more than one group of students is recommended. Online students’ preferences might change according to their age group, the aim of the course they have registered etc.

Therefore, verification of the current study’s results with some other sample might be worthy of consideration in future studies. In addition, the views of university administrators, instructors of online courses, course designers might be assessed to determine all factors that affect achievement of students and to evaluate student performance from several aspects.

For the generalizability of the findings, the sample size might be increased. Also, a longitudinal study might reveal the hidden factors for students’ success in the long term.
BIODATA and CONTACT ADDRESSES of the AUTHORS

Dr. Meltem Huri BATURAY is an instructor at the Department of Animation at Ipek University in Ankara, Turkey. She is the director and founder of Distance Learning Research and Implementation Center at the same university. She received her doctorate degree (2007) in Computer Education and Instructional Technology from Middle East Technical University. Dr. Baturay’s areas of professional interest include e-learning, MOOCs, online social learning environments and web-based foreign language teaching.

Assoc. Prof. Dr. Meltem Huri BATURAY  
Distance Learning Research & Implementation Center  
Ipek University, Ankara, TURKEY  
Phone: +90 312 470 41 16  
T: + 90 312 470 00 00 / 4611  
F: + 90 312 470 00 07  
Mobile GSM: +90 554 838 13 81  
Skype: meltem.baturay  
Email: mbaturay@ipek.edu.tr  
URL: http://www.ipek.edu.tr

Dr. Erman YUKSELTURK completed his MS (2003) and PhD (2007) in the Department of Computer Education and Instructional Technology at the Middle East Technical University (METU) in Turkey. Associate. Prof. Dr. Erman Yükseltürk currently works at the Department of Computer Education and Instructional Technology in Kirikkale University, Kirikkale, Turkey. His research focuses on mainly design, development and implementation of online learning environment. Also, his research interests include teacher education; instructional technology and integration of technology into various learning environments; team based learning; Web 2.0 technologies; and related assessment and evaluation processes.

Assoc. Prof. Dr. Erman YUKSELTURK  
Department of Computer Education and Instructional Technology  
Faculty of Education, Kirikkale University, Kirikkale, TURKEY  
Phone: +90 312 210 35 47  
MobileGSM: +90 505 681 51 24  
Skype: ermanyukselturk  
Email: eyukselturk@gmail.com

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TURNITIN? TURNTOFF:
The Deskilling of Information Literacy

Professor Tara BRABAZON
Education and Head of School of Teacher Education
Charles Sturt University, AUSTRALIA

ABSTRACT

Plagiarism is a folk devil into which is poured many of the challenges, problems and difficulties confronting higher education. This article investigates how software -Turnitin in particular- is ‘solving’ a particular ‘crisis’ in universities. However, I investigate how alternative strategies for the development of information literacy offer concrete, productive and imaginative trajectories for university staff and students.

Keywords: Plagiarism, intellectual integrity, information literacy, higher education.

INTRODUCTION

Most of us when explaining what digitization, computing, the internet, web and read write web have added to our lives respond with verby nouns:

- efficiency,
- productivity, and
- connectivity

Some may describe the rapid delivery of information. A few may even recognize an expansion of knowledge. What is rarely mentioned and one of the causes of this efficiency is that an array of functions in our daily lives are now automated and displaced from patterns of conscious decision making. From spelling checkers to the defragmentation of discs, from predicting our search terms in Google through to remembering our interests when we visit Amazon, we move through life in a bubble of predictability.

The assumptions of efficiency and productivity block the realization of how we fill each day with tasks that did not exist twenty years ago. We also normalize, rather than medicate, bizarre online behaviour. Examples include those who insist on showing how clever they are by CCing an email to half of Yorkshire, managers who reply to serious issues on their blackberry or users of Twitter who think they are being clever and witty, rather than xenophobic trolls. How these learned, deskilled but increasingly automated behaviours link with learning is a key question. I have lived through the impact of digitization as a student, teacher and head of department. When I enrolled at the University of Western Australia in Perth in 1987, the library catalogue had just been digitized, and the word plagiarism was not used at any point during the degree. Yes, there were whispers about academics ‘using’ the work of their dissertation students.

Compare this situation to our present. I run inductions for new students, and have done so since 1997. Each year, plagiarism has crept further and further up the orientation agenda. Picture this scenario. Students work hard to gain entry into university. They are finally free to open a new chapter of their lives. I watch them arrive on their first day in higher education, anxious to meet new friends and are excited about the future.
What do we do to them on their first day? Within one hour of their arrival -instead of speaking of hopes and dreams and congratulating them on their achievements and wishing them well- we push sanctions against plagiarism so aggressively they almost suffocate. As I sit in the auditorium, I see how we lose our students.

I see the shining joy leave their faces. A culture of blame, shame, judgment and ridicule is created. We never think that we as teachers are creating the problem that we most fear, by replacing teaching and learning with blaming and shaming. Instead of motivation and aspiration, we use academic dishonesty (Shariff and Ahamed 2014) and plagiarism.

This paper enters the troubling terrain of academic dishonesty. As more educational opportunities and professional development are undertaken digitally and at a distance from the physical buildings of a university, the software and hardware selected by academics becomes even more important to ensure both quality and quality assurance.

The focus of my article is Turnitin, the panopticon of plagiarism. This application certainly manages plagiarism. It catches and censors the cheaters. But are we missing something in this story? Indeed, are we missing the actual story? Each day, we make a choice between ‘blaming’ the internet for plagiarism and establishing a system of retribution to manage it, or recognizing that our current students are facing a range of complex social, economic and technological challenges that require more precise tools to address their concerns. The internet did not invent plagiarism. Plagiarism has many definitions (Briggs 2009), but it is increasingly being reified to copying and pasting digital text (Jocoy and DiBiase 2006).

This arbitrary and incorrect convergence of plagiarism and the internet has ignited educational managers’ need to solve academic challenges by administrative means. A recent study of dissertations, comparing online and brick and mortar institutions, found that no significant difference between the originality indices of dissertations from traditional institutions and those from online institutions (Ison 2014, 272). The statistics of plagiarism need to be placed in context and -to deploy the Blum’s phrase- “College Culture” (2009). McCabe, Butterfield and Trevino’s two multicampus surveys found that 30% of students admitted to academic dishonesty in 1963, compared to 26% in 1993. The update of this study for 2002-2010 demonstrated a decline in ‘padding’ items into the bibliography and copying from another student’s test, but remarkable similarities in many of the other modes and forms of academic misconduct (McCabe, Butterfield & Trevino 2012). These results confirm that there is no internet-caused ‘epidemic’ as similar levels of plagiarism were reported in the analogue age. Instead, plagiarism requires a context and history.

Why in the last twenty five years has plagiarism moved from relative invisibility to the key scholarly crime in our schools and universities? Every era finds and invents the folk devils it requires for its time. The twentieth century folk devils moved from flaneurs to bankers, flappers to feminists, and from rock and roll to rap. It is clear and effective to construct a label, build a category and throw negativity, darkness, fear and loathing at an unspecified, ill-defined group that cannot fight back. Stuart Hall and others described this as Policing the Crisis. Youth is a great label to police a crisis. So is internet pornography. So is plagiarism (Decoo 2002). Part of the purpose of this article is to unpick this talk of ‘crisis’ and ask what are we are NOT talking about when we summon the folk devil of plagiarism. What is being hidden, what is being masked? Why are ‘we’ ‘fighting’ plagiarism? (Batane 2010) These are multiple and convoluted questions, but I offer an argument for the consideration of readers.
With all the great benefits and gifts of digitization, the internet and the web, consider what we – students and citizens - have chosen to do with our online time. We are drawn to the easiest, the most trivial and the inane. We displace all the anger of our wasted opportunities and use of digitization. We displace the neglect of professional development of university academics over twenty years, so that all that is left is to discover plagiarism through software, rather than prevent it (MacDonald Ross 2004) with particular attention to information literacy, media literacy, discussions of academic integrity, curriculum development and multimodality.

In this paper, I argue that plagiarism is a proxy, a strategy to blame the victim, rather than consider what has happened to higher education in the last twenty years. We are now living with the consequences of quick and cheap fixes for teaching and learning for two decades. I unpick the ‘management’ of plagiarism in higher education, interspersed with testimony from my former students as I ask them about their experiences with plagiarism and Turnitin (Brabazon 2011a). But this is not only a paper of critique and diagnosis. I present ten strategies to turn off the automation of software and reboot our wetware, to reclaim our intelligence and capacity for consciousness, reflection and questioning of deskilling processes and practices. I disengage – just temporarily – the software, and reconnect information literacy with context for learning.

ASSIGN ASSESSMENT TO DEVELOP AN INFORMATION SCAFFOLD

While software discovers plagiarism, the greater question is how it is prevented. It is easier to pay for an application and database, than spend the time and money to prevent plagiarism in the first place. The solution to plagiarism is not software, but information literacy. A key strategy that costs nothing except academic staff time and their professional development is the creation of an information scaffold in every subject, in every semester in a degree. As the phrase suggests, we need to find ways to position a scaffold –a ladder– into our assessment that is not buried in assumptions, or hidden behind end of semester exams or a stand-alone research project.

The key strategy I use to develop an information scaffold is assigning research proposals and annotated bibliographies as assessment (Ghezzi, Chumber and Brabazon 2014). Two decades ago, academics could assign stand-alone papers. Now, we need to teach –overtly and clearly– strategies for managing and organizing material for research. A research proposal of two hundred words in length teaches students the skill in writing abstracts, finding the originality in their research, while also being intellectually generous to the scholars who preceded them. It also allows teachers to discover problems early in a semester before a full paper is written. I assign a very specific annotated bibliography. Students must find twenty items, determined by modality, peer review and media. This strategy ensures that they are thinking actively about the nature of source material, particularly with regard to credibility.

<table>
<thead>
<tr>
<th>Two scholarly monographs</th>
<th>Two print-based refereed articles</th>
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<tbody>
<tr>
<td>Two refereed articles in an open access online journal</td>
<td>One PhD</td>
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<tr>
<td>One blog</td>
<td>One relevant social networking site</td>
</tr>
<tr>
<td>One scholarly lecture from YouTube</td>
<td>One podcast</td>
</tr>
<tr>
<td>One vodcast</td>
<td>One official website from a professional organization</td>
</tr>
<tr>
<td>One offline magazine or newspaper article</td>
<td>One track or album of music</td>
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This is an interventionist, positive and proactive strategy. Doug Johnson revealed, educators expend much effort trying to ‘catch’ plagiarism in student work. Teachers and library media specialists use various Web services and Internet search techniques to detect student work that is lifted from online sources. While such tools are necessary and can be effective, our time as educators would be better spent creating assignments that require original, thoughtful research and, therefore, minimize the likelihood of plagiarism in the first place (Johnson 2004).

This annotated bibliography is a diagnostic tool, but also profound for students because they learn to deploy media literacies when engaging with online sources. However, when I assigned this assignment to my fourth years in a Canadian university, the results were unusual. They could not manage it. They used Google for every search, but did not vary their keywords or vocabulary. They did not use the expertise of our librarian (Brabazon 2011b). They did not use Google Scholar. They did not use the Directory of Open Access Journals. For the supposed google generation, they had profound difficulty finding podcasts, vodcasts or websites from a professional organization. They could not find any podcasts. I added the word ”podcast” into their search box and – as if by digital magic – the podcasts appeared. Students had so many difficulties finding these sources that they almost gave up.

***

From: Sally
Subject: RE: And a happy Sunday to you all!
Date Sent: March 5, 2012 1:50 PM
To: Brabazon, Tara ()

Hey Tara,
I have a lot of anxiety about the sources for this paper, mainly because we have never had a breakdown of such particular sources and it is taking a long time. Do we lose a lot of marks if our sources are not all fitting into what you want?

Thanks,
Sally

***

These were fourth students within one month of graduation. The problem expressed through this email is not derived from a search engine. The problem is a lack of information literacy in an age of information obesity. Also Sally’s comment about ”it’s taking a long time” is significant: it is easier to read blogs than an academic article. It is easier to watch a YouTube video of a bride falling over at a wedding than watching an important lecture recorded with a static camera.

The problems became worse. One week before the first assignment was due, I received another email.

***

From: Maggie
Sent: 14 March 2012 12:14

| One advertisement | An item of material culture |
| One television programme | One photograph from Flickr with a Creative Commons License |
| One film | |

| One advertisement | An item of material culture |
| One television programme | One photograph from Flickr with a Creative Commons License |
| One film | |
To: Tara Brabazon
Subject: Re: Topic for Social Change

Hi TB,

I feel like you are going to hate me by the end of this.

I have a bunch of questions about some of the sources we need. Here they are:

- How do you find a scholarly monograph? I get that you don’t want a textbook, but how do I go about finding that?
- For the ebook, it has to be strictly online? That’s a hard find
- What in the world is a refereed article? And of course how do you find those and know that they are refereed?
- What is the difference between a vodcast and a youtube video (could be a stupid questions)
- For the music item, could I use their theme jingle?

I think that might be it. . .

I feel horrible because I never leave things last minute and I just realized it was due on the 20th when I thought it was due at the end of the month and now I’m scared!!! HELP

***

Within four weeks of graduation, a student needed help in finding a book and a refereed article. This is a horrifying but important story for our time. This is not only a ‘digital problem.’ They do not know what they do not know until prompted by challenging assessment of their information literacy. All information requires an understanding of its credibility, relevance, purpose, audience and appropriateness for its required context. Therefore attention is required on research training, database instruction and best use of search engines.

HIGH QUALITY FEEDBACK

I have a theory: there is an inverse relationship between the number of institutional surveys of student feedback and the quality of feedback that students receive. Online submission through learning management systems is increasingly enforced by university managers. The question is why? One justification is that the online submissions, rather than analogue based projects on an array of platforms and presentational modes, can be run through Turnitin. Preventing plagiarism is the guiding goal to our practice and process. Alternative models of feedback are displaced from discussion (Dochy, Segers and Sluijsmans 1999).

Plagiarism is easy to discover through automated software embedded into learning management systems. Such a process has little to do with teaching, and much to do with the administration of teaching. Benjamin Ginsberg, in The fall of the faculty: the rise of the all-administrative university and why it matters (2011), recognizes the cost of these ‘cultures of planning,’ through meetings, conferences, staff retreats, strategic planning and talking. The invention of targets and agendas ensures that “administrators engage in a number of make-work activities” (Ginsberg 2011, p. 41). Talking replaces doing through these cultures of planning. The focus and fixation on plagiarism rather than information literacy is part of what Ginsberg described as, “the ongoing transfer of power from professors to administrators” (2011, p. 167). There has been little discussion – and less professional development - of how the quality and mode of feedback has transformed through online submission. My students however were not so reticent.

My concern is not so much that my work is being scrutinised for plagiarism, but that originality percentages become the most important part of everything I
Since Turnitin has been used regularly I seem to be receiving less and less feedback on my papers, leading me to believe that my professors are using Turnitin as a crutch, rather than spending much time reading what I have written (Claire in Brabazon 2011a).

My fourth year students at a laptop university who had managed online submission for four years noticed very little feedback on their work and argued that increasingly the Turnitin report was actually a replacement for feedback.

This is not the fault of Turnitin. It is the fault of how it is used. A lack of professional development for academic staff is clear, misunderstanding the difference between compliance in detecting plagiarism and providing the most robust feedback that facilitates excellence and rapid scholarly development. Instead of deploying clear evaluative criteria, the learning management systems we deploy encourage basic rubrics. At its most reified, students receive a mark out of ten for grammar, a mark out of ten for referencing, and a mark out of ten for interpretation. By assessing these basic skills on a marking checklist, the ‘standard’ of a university student’s scholarship is supposedly assured. This is a confusion of quality assurance with quality. Validation meetings are filled with discussions of summative and formative assessment, rather than asking more fundamental questions about the level of content being taught and evaluated. The focus is on form, rather than content. High quality feedback is crucial to the development of scholars and scholarship. James Cote and Anton Allahar realized the profound consequences of reducing scholarly commentary and interpretation and the increasing use of checklists.

When little is asked of students, and no feedback is given regarding how to become more proficient in areas where improvements could be made, many will simply drift through the educational system and into the workforce without knowing what they are – and are not – good at (Cote and Allahar 2011, 68).

The difficulty with the ‘managerial turn’ of higher education, is that university education is ‘administered.’ Academics are experts, evaluating excellence rather than compliance, and recognizing flaws, inaccuracies and obscurity in ideas and interpretation. Turnitin and rubrics automate and de-skill assessment and expertise from university scholars. Students move through their degree without the deep and tough critiques that would improve their work.

**FIND STRATEGIES TO ENSURE THAT STUDENTS RECEIVE AND UNDERSTAND THE FEEDBACK**

The impact of online submission of assignments for a generation of students is having an impact. Let me share a secret story. I taught a large survey course, titled Introduction to Communication. First year is a transformative experience for the teachers and learners. I spend a lot of time marking, ensuring that the learning outcomes map over the assessment, and that the evaluative criteria are clear. Each paper takes about an hour to mark. Students learn rapidly and improve quickly when feedback is intense, customized and individualized. I had never doubted its value, until Christmas 2011. I marked 161 first year assignments through December for submission to the university on January 2, 2012. I then waited to return the assignments to students.
I waited.

Figure 1. Marked Papers 1 (Photograph by Tara Brabazon)

I waited.

Figure 2. Marked Papers 2 (Photograph by Tara Brabazon)

I waited.

Figure 3. Marked Papers 3 (Photography by Tara Brabazon)
For three months, I held the papers, all hand marked and with an A4 page of individualized commentary. Of the 161 papers, only four students picked up their work.

Every day in my office I stared at the pile of papers, waiting for students to receive their feedback to enable their improvement. Apart from the four students who picked up their papers, the rest were shredded in April.

For the first time in my teaching career of twenty years, I questioned the value of marking and assessment. This marking time was lost time. Part of this story it is about the managerialism that has marinated our educational system, where grade point averages are more important than learning. Part of it is about the flattening of expertise through the read-write web where all comments are of equal value. The students had received a mark for the paper online. Therefore they did not bother receiving their feedback.

That meant that they had no mechanism to improve, and they did not care. The value of assessment has been reduced to the mark. One my former students David, described this process:

*I feel a bit offended when I’m told Turnitin is being used. The algorithms are completely inaccurate and don’t take into account several different factors. It’s like a machine is marking our work (David in Brabazon 2011a).*

While our student surveys ask questions about feedback, when it is supplied, many (most) of the students do not retrieve it.

Students can now avoid receiving feedback. Turnitin is considered to provide “formative feedback” (Rolfe 2011). I often deploy the structure of an annotated bibliography and research proposal, followed by a full research paper. They receive feedback on the first part to improve the second. This strategy now fails because the students do not bother reading the feedback on the first stage. They do not improve, simply replicating the same errors. To re-energize a moment of reflection into the student’s learning portfolio, I create a meta assignment on feedback, worth 10 percent of the semester’s mark. Students must receive their detailed feedback from their first assignment and write a second assignment about what they did wrong, what went well and most importantly how they are going to use that feedback to improve their next assignment. They must demonstrate expertise in their own feedback to move through the information scaffold. When students picked up their feedback, such spoon feeding was not necessary. A meta-assignment asks them to reflect on their feedback and how they will act on it.

Another effective solution that I have yet to attempt is built on the paradigm of the flipped classroom (King 1993). “Flipped Marking” is an attempt to reduce what Jaime Paris has described as students feeling “alienated from the university community,” because of the focus on plagiarism rather than learning. He suggests involving peer marking throughout the process. The goal is clear.

*To fight plagiarism I am arguing that students need to be told not to cheat and to be punished if they do, but I am also arguing that students need to be taught how to become invested members of an academic community. The plagiarism crises, I am arguing, can be best addressed by using tools that encourage and privilege community building rather than by using tools that encourage academic isolation (Paris 2014).*

Paris’s argument is convincing and is worth an attempt. There may or may not be a plagiarism crisis. There is however a feedback crisis. The necessity for complex,
challenging, rigorous and testing assignments that are evaluated with care and the commentary understood and acted upon is clear. Creating meta-assessment on assessment or a mode of flipped marking are both options to consider.

DO NOT DISTRIBUTE POWERPOINT NOTES FROM LECTURES

This maxim is so out of step with current practices, I almost hesitate to suggest it. However, a range of research projects have shown that no matter how much work and care and respect that academics put into learning management systems, the overwhelming function for which students use them is to download PowerPoint slides from lectures (Tobarra, Robles-Gómez, Hernández, Caminero 2014). There are two key problems with this downloading of slides. Firstly students do not learn how to take notes independently in a lecture and seminar. They have a crutch provided by their teacher which means they can maintain distractions in a lecture theatre, take text messages, scroll through Facebook’s news feed, thinking that they will scrounge sufficient material from the academic’s PowerPoint slide to pass.

herefore, they do not gain auditory literacies. There is an Empire of the senses (Howes 2005). The visual will dominate the sonic, the olfactory, the tactile and taste.

A particular dominant mode of information management will block the development of alternative literacies and multimodality. Students lose the capacity to take independent notes. Downloading slides is different from finding an independent pathway through material.

Further, there is a confusion between reading PowerPoint slides constructed by a lecturer and completing the required reading for scholarship. I bring students into my office to talk about their assignments, rather than simply return them. I asked them to show me their notes. They share notes from the lecture and seminar: there are no notes from the readings. One of the key causes of plagiarism is a lack of reading, being too reliant on a very few sources, often a textbook.

Even more frequently, the academic’s PowerPoint slides are simply being downloaded and opened when assignments or examinations are pending. Downloaded PowerPoint slides provide a replacement for their own listening, thinking, selecting and writing. If they do not take notes, then they are never able to control the information environment. This problem can be solved – or at least started to be solved - by considering how they select information in the first place.

Instead of uploading my PowerPoint slides from lectures, I display a series of foundational files with names like “Lecture One Base Notes,” “Lecture Two Base Notes” and “Lecture Three Base Notes.”

The key is in the title: students see a file that is linked with a lecture. They recognize something has been prepared. I provide six to eight slides in the base notes of the 80 or 90 I would use in a lecture and workshop.

This short package of slides is an orientation into the week’s reading and teaching and is different from the material used in the lecture.
The content on these ‘orientation’ slides includes: title of session, a 3-6 minute podcast that orients the student into the week’s teaching, the four key sections of the lecture, key questions, a structuring diagram of a key relationship, important theorists and a big question – ‘Why this topic is important?’

CASCADING ASSESSMENT

Cascading assessment is a great strategy to ensure that students are working at the level required of them at university. I have the uncomfortable – but productive – privilege of being able to compare the international standards of higher education at very close quarters. The moment of rupture when I move between the systems is always startling. When I left Murdoch University in Western Australia, I was teaching first year students in a large survey course in Creative Industries. Six weeks later, I arrived at the University of Brighton to teach third year students in their first semester of their final year. Their academic standard was lower than the Australian first years. I then moved to Canada to teach at fourth year level and they had so little content knowledge of communication that their expertise was even lower than my English experience. In practice, this meant I added fifteen minutes to each lecture to define the most basic of terms, ideas and theories.

What had happened in the Canadian degree system? Two particular problems had emerged: no quality assurance and no benchmarking of skills, disciplinary knowledge and literacies. It was not clear to academics or administrators how the standards of first year were different from second year, third year and fourth year.

Without benchmarking, the students were taught the same material over and over again, and therefore they had the tendency to repeat the same content they used in earlier assessments. This is not only a form of self plagiarism, but the students are not allowing themselves to grow, develop, transcend and transform. Other problems that held back the level of student development included the removal or reduction of tutorials and seminars, little feedback, dated and basic textbooks assigned, and a reduction in contact teaching time.
A lack of professional development for academics meant that few staff held teaching qualifications. This resulted in two problems: poorly constituted assessment, with a reliance on basic online quizzes, tests, midterms and exams, and secondly the study guides – which they referred to as syllabi - were all under eight pages in length. This was the work to be completed in a semester. The staff had created the plagiarism problem that they were trying to avoid by teaching so little content during the semester that the students were lacking theories and data on which to expand. The monitoring of plagiarism had become a proxy for regulating and verifying academic standards.

This is not simply my personal experience. A remarkable book on this topic is Richard Arum and Josipa Roksa’s Academically Adrift: Limited Learning on College Campuses. They state that the quality of undergraduate learning is no longer a silent fear amongst academics, but a public problem for policy makers, politicians and employers.

They present a longitudinal study locating the barriers to learning in undergraduate degrees. The impact of students spending time on "non-academic activities” such as drinking and socializing results in a lack of preparation for academic study.

Many students come to college not only poorly prepared by prior schooling for highly demanding academic tasks that ideally lie in front of them, but – more troubling still – they enter college with attitudes, norms, values, and behaviors that are often at odds with academic commitment (Arum and Roksa 2011, p. 3).

They summon the customary argument that students are under prepared on entry into universities and conduct little personal study once on campus. But the authors then enact a knight’s move. It is a productive one. They state, "If one is to cast aspersions on student cultures that exist on college campuses today, one would do well to focus equal attention on the faculty cultures and orientations” (2011, p. 5). Blame for a lack of educational achievement is not loaded onto students. Instead, a spotlight is shone on academics: their expectations, preparation and (in)ability to lift students to the required scholarly standards. They show that students learn very little through their four year degree. Arum and Roksa argued that academics must lift their methods, strategies and preparation, to create a context for intellectual excitement, motivation and rigour. Too often – because online learning has been sold to institutional managers as a cheap option, it is introduced to cut down contact hours with staff and reduce the depth and breadth of a university degree.

The way to intervene and interrupt this process, to create depth and breadth in learning, is to build cascading assessment. This is particularly useful if we are teaching in a university where the standards are low and the students do not know enough to be – in all conscience – awarded a degree. The cascades create an understanding of the student’s level of learning, and multiple interventions in the process to both check and lift their achievement. To provide an example of assessment design that I created with Steve Redhead for a fourth year Interdisciplinary Legal Project, for students who in effect are asked to write a dissertation in their fourth year, but had never actually read enough beyond basic textbooks to be able to do it (Brabazon and Redhead 2012).

A four stage assessment was required:

1. Research Proposal
2. Key Theorist Paper
3. Research Diary
4. Final Research Project
All the assignments were tethered so that there is continual feedback to check and correct errors and provide momentum for the next stage. Cascading is the correct verb. Each assessment dovetails into the next. Errors are picked up early in the semester and students who have not worked at the required standard through their degree improve rapidly. This is obviously very hard on staff. Marking must be done intensely, carefully and quickly so that it can feed into the next stage. But it means that students must structure their time and ideas and get organized. Through such a cascade, there is a rapidity of improvement, enhanced motivation and momentum, with each segment of assessment leading to a greater outcome.

**ORIENTATION MATTERS:**
**Inspiration and Motivation, not Compliance**

Much literature in education at the moment has the word ‘crises in the title. Ginsberg describes the fall of the faculty (Ginsberg 2011, p. 11). Cote and Allahar describe the lowering of education (2011, p. 173). The question is how this talk of crisis creates a culture of compliance to medicate it.

Compliance culture is inappropriate for all forms of education, but particularly damaging for higher education.

As students are increasingly being branded as consumers and Key Performance Indicators are invented for staff, a culture of blame on teachers is created, rather than recognition of personal accountability and intellectual discipline. As Nicole Auer and Ellen Krupar confirm,

*Universities have also fallen prey to the consumer mentality, this time directed at students. With the proliferation of 'Maymesters,' which contrive to give the illusion that you can condense a semester’s worth of learning into a short few weeks, universities have given up some of the pretence that learning is the purpose of classes ... With students cut off by time constraints from interlibrary loan, retrieval or articles, or even the time to analyze information, what exact message are the students receiving on the value of any knowledge they may accidentally glean from their frantically paced class (Auer and Krupar 2001: 421).*

The treatment of students as clients who consume education and are served by their teachers is transforming how these students/clients consider their assessment. Instead of being examined, they are being supported. Instead of being taught, they are facilitated. Nancy Girard confirmed that "students today pay a lot of money to attend college or university so many of them feel that any and all ways they find to excel are acceptable, including plagiarism" (Girard 2004, p. 14).

If universities are charging students for courses, course materials, maintenance fees, car parks and library cards, then it is a continuance of this ideology that money can also buy an essay. Consumers (students) are buying a service (education).

Through the use of language like graduate attributes, generic skills, flexibility and learning outcomes, the point of transformative and transgressive education is displaced. The base line of a successful assessment is not if the student has plagiarised. The question is where and how they learn to be outstanding scholars? The more that we drag higher education down to ticking boxes and frightening students, the more they will respond as consumers and complain about the service they have received. It is only when we render university education special – a privilege rather than a right, a gift rather than a service – that the inspirational components become part of the daily joy of education.
AVOID ASSIGNING TEXTBOOKS

If students are consumers of education, then the archetype of that statement is the explosion of the textbook market. When I was writing a textbook for an international publisher, I was given advice by the editor. It had a racial slur in it, which I will remove. But he told me “Tara, always remember that the audience for a textbook is a 19 year old girl who is much more interested in her boyfriend than learning anything.” This is offensive on many levels, about learners, about teachers, about scholarly writing and female students. There is a kernel of – not honesty – but warning in his words: do academics want to be a part of – and want to support - a publishing system that aims to facilitate mediocrity and laziness? Should the knowledge taught in North America and the United Kingdom be packed up - textbooked – and moved around the world without critique or question? Why do we think that by feeding our students bullet points, definitions in boxes and questions at the end of chapters that we are providing the foundation for scholarship? Ram and Roksa demanded standards of achievement, yet how can these standards be met with these low-grade textbooks? More significantly, students never gain the meta-skills to find further and relevant information.

***

From: Kathleen
Sent: Wednesday, 12 April 2006 10:43 AM
To: Tara Brabazon
Subject: assignment

Hey Tara
I know this is last-minute but unfortunately i’m a last minute girl. I need help with my assignment. I’m getting confused with the topic and I can’t seem to find good references, or enough references for the topic.
When are your consulting hours? Because I desperately need help.
Love Kate

***

Turnitin discovers errors that have been recorded in their database. Such errors are easy to find if scholars around the world are assigning the same low-level textbooks year after year. But why I become irritated – on the student’s behalf – is that they are spending a fortune on low grade textbooks, while the quality of open access journals has never been higher. To deploy open access journal articles in our subjects, more time is required from academic staff in finding current and interesting reading materials. By increasing the diversity of data used by students, they are not locked into paraphrasing a single textbook where the chances of plagiarism are much higher. Paraphrasing is located on the plagiarism continuum. The difference between paraphrasing and plagiarism is not clean, crisp and obvious (Shirley 2004). Every attempt at paraphrasing contains a risk within it (Atkinson 1957). There are productive programmes to develop “authorial identity,” which describes a method to assist students in developing their own tone and mode of writing (Elander, Pittam, Lusher, Fox, Payne 2010). Turnitin is the determiner of whether the resultant prose is on the right side of paraphrasing or teeters into plagiarism.

MAKE ASSIGNMENTS MORE COMPLEX

Besides rendering reading materials more complex, it is important to ensure that assignments are tough and test knowledge in terms of form and content. The key in terms of plagiarism is not to assess via basic assignments that encourage paraphrasing, but find
assignments that focus on interpretation, creativity, innovation and originality. Colin explored the much wider context of plagiarism.

The problem with Turnitin is a band-aid solution to a much wider problem of chronic underfunding of post-secondary institutions. It leads to lazy teaching and automatically assuming that students are plagiarizing (Colin in Brabazon 2011a).

It is very easy to blame students. But the teachers have a wide ranging responsibility in the current culture. I used to chair the academic misconduct meeting each semester and two courses would present between half and two thirds of the students in an annual academic misconduct meeting. These cases were not ‘about’ the students, but the assessment mode chosen by staff. One of these courses was a first year film unit. Students were asked to write the plot of the film. Is it any surprise that in re-writing a paragraph on the plot of classic cinema, the cases of plagiarism were high? The second course was a third year research methods course. Students were asked to write a paragraph on a textbook chapter about a research method. J. V. Bolkan diagnosed the problem in these courses.

Solid assessment and good teaching ... can’t be over emphasized ... Motivation, of course, is the key. Motivated and engaged learners are much less likely to take shortcuts. If they’re only in your classroom to get a grade and move on the potential for plagiarism will be greater (Bolkan 2006).

Innovative and rigorous assessment is both demanding and motivating. Yet asking university students to paraphrase and summarize is not appropriate. Are these the best assessment that could be developed in these areas? What about asking students to think about sound, film posters or bricolage? What if academics asked students to write a mock review for The Observer?

Similarly, for the research methods course, why not demonstrate that the students understand the method through application? When learning ethnography, ask students to go into a community in which they belong and write about insider and outsider relationships. When learning about unobtrusive research methods, send them to a graveyard. So many innovative assessment options are possible through the read-write web. Students can construct artefacts through the diverse functions of their mobile phone and learn to write in a succinct, careful and applied way through an exegesis on those images.

Some assignment modes are more likely to result in plagiarism than others. We should enhance and enable the creative-led options to assess learning outcomes in new ways that are available to us through digitization.

RUN A STANDALONE INFORMATION LITERACY PROGRAMME IN THE FIRST SEMESTER OF A DEGREE PROGRAMME

Culturally and historically, that which is fast dominates that which is slow. Therefore scrolling and skimming replaces reading. One way to establish the different modes of engagement with text is for librarians in the first semester of a university degree to provide a designated course or module on information literacy. Such a strategy establishes the faculty status of librarians, builds relationships between librarians and students at the start of the degree and ensures a minimum standard of information literacy. For example, the University of Wollongong library and librarians in Australia has StartSmart, a compulsory programme for all undergraduates and highly recommended for postgraduates (StartSmart 2014). Student results are withheld at the end of the first semester if the students do not complete this course. From the start of a student’s degree, discussions of academic quality, standards and scholarship are the core and spine of a university education.
Such a programme reveals our choice.

Academics can create a culture of plagiarism, grievance and compliance or information literacy, motivation and excellence.

There has never been more available information than in our present. However, the capacity to differentiate and evaluate it requires specialist care and attention. Without such a focus, we have to convince students that reading is required and scholarship is different from journalism.

***

From: Merv
Sent: Friday, 24 March 2006 5:11 PM
To: Tara Brabazon
Subject: RE: Creative Industries HELP!

Hi Tara
Sorry to be painful but this should be my last question. Do we really need to have ten references from the readers?

It’s just that by coincidence (my parents bought me a subscription to Time) I have found a couple of articles, one regarding obesity in America and one about everyday people creating wealth through the internet (with blogs, short films etc).

I’d like to use these but I feel that I am getting too wound up on having ten references from the unit material,

Have a good weekend
Merv

***

The problem is – within the managerial university – the detection becomes the outcome, the ‘success.’ Actually plagiarism is a symptom, a diagnosis for a lack of information literacy. Nicole Auer and Ellen Krupar realized that,

Librarians are in a unique position to help prevent and detect plagiarism by forming partnerships with faculty to re-examine assignments and instructional sessions and by informing them of Internet paper mills and useful Internet search strategies (Auer and Krupar 2001, 415).

This balanced and considered response was written in 2001. Consider the movement of funding away from libraries and librarians and towards software and hardware in the subsequent decade. Disintermediation of information systems has resulted in software ‘discovering’ plagiarism, rather than validating librarians and information literacy programmes that can prevent it (Auer and Krupar 2001).

PROFESSIONAL DEVELOPMENT OF ACADEMIC STAFF

Many of the ‘causes’ or - to be more precise – the casual relationships that have created a culture of plagiarism are avoidable:

- do not use textbooks,
- generate demanding assessment and
- change that assessment each year.
There are so many positive options: use and trust the expertise of librarians, create information scaffolds and cascading assessment, and construct meta-assessment for students so they must log the feedback. Most of the initiatives I have discussed in this article are not demeaning, ridiculing or attacking students. The focus is on the behaviour, not the student (Powell 2012). Instead, this paper is questioning the ‘business as usual’ behaviour of staff. It is easy to blame students. It is particularly easy at the moment when we are receiving emails where they demonstrate – overtly and clearly – laziness, mediocrity and boredom. But what about teachers? Who gains from a discourse where plagiarism is definitive, trackable and clear? Instead, Shelley Angelil-Carter confirmed three modes of plagiarism:

- cheating (deliberate fraud),
- non-attribution (through ignorance of referencing models)
- and paraphrasing that is simply too close to the original source (Angelil-Carter 2000).

Edward Winter added the rather complex terrain of ‘self-plagiarism.’

This occurs when an author uses his or her work that has been published previously elsewhere. Among other aspects, infringement of copyright enters the frame. Before a high-horse is mounted, consider the challenges faced when describing methods. If a particular technique is used repeatedly in one’s work, it soon becomes taxing to describe that technique in a different form of words. Attempts to get round the problem by using the expression, ‘The technique has been described in full elsewhere so only a brief outline is presented here’ means that a reader has to go to another source with the attendant inconvenience that this brings. Often, reviewers challenge this approach (2006, p. 113).

Clearly, the determination of (self) plagiarism and citation is not as precise as the software-evangelist administrators may wish. It is convenient to define it as “recycling of assignments” (Halupa 2014, p. 121). In reality, such definitions are dependent on the parameters of different institutions (Halupa 2014). Similarly, there is the messy and complicated issue of senior academics ‘claiming’ or being named as an author for other’s intellectual work. If students have seen senior scholars who have little contribution in an article adding their name to research, what lessons are being learnt about intellectual integrity?

Plagiarism is multi-phase and multi-causal. We need to demand more of our students, but really we need to demand more of our university academics. While academics may hold a doctorate - confirming expertise in content - holding a teaching qualification confirms expertise in form. Staff need both.

Without either of these elements, the staff members do not have the expertise to manage the high level of both form and content required at university level. When academics lack intellectual ability, it is completely understandable that staff cut corners, use easy textbooks, rather than having to work harder to master new, innovative and challenging content through open access journal articles and assign basic – rather than creative – assessment items. I can always diagnose a teacher not managing form and content. They fill tutorials and lectures with student presentations, using the excuse of student-centred learning.

The truth is that the staff member either cannot be bothered or does not know how to create innovative learning. I will give you an example of this. In Canada, I taught at a laptop university, but the laptop became an excuse to reduce student contact. I remember an awful moment when I emailed an administrator to thank him for the timetabling information for the three hour lecture. I asked him where and when the
seminars were being held for the 160 first year students. He replied that there were no tutorials or seminars.

The students had a lecture. They had a laptop. That is enough. These three hour lectures in a barn of a room, where every student plugged in their laptop, were the toughest teaching I have ever done.

Ironically, I received the highest teaching reviews of my career, but the time involved in creating useful learning experiences for 160 students in a lecture theatre completely unsuitable to any form of innovative teaching was immense.

I always arrived well before each of my sessions, as it is a good time for students to sit and have a relaxing chat with me when they were attending the campus anyway.

A by-product of this process was that I saw the academic in the session before mine. For the first two weeks, he delivered a lecture in a three hour slot. He filled an hour and then released them.

Then for the rest of the semester – the following eleven weeks - he filled the lecture time and space with student PowerPoint presentations. Each week I thought this must be the last session, as these sweaty students darkened the room and proceeded to read from their slides. Instead, these presentations filled the entire semester’s teaching.

Each week ‘the audience’ (students) became smaller until by the end, the last presentations in week twelve, there were fewer students in the audience than in the group delivering the content.

These students may not have plagiarized content, but the bigger question is, how much had they actually learned?

Figure 5. Learning architecture (Photograph by Tara Brabazon)
CONCLUSIONS

J. V. Bolkan, as early as 2006, explained that plagiarism is a proxy and a mask for a deeper discussion about the nature of teaching and learning.

Many educators blame the internet for what they perceive as the rise of plagiarism. Although the Internet certainly enables more efficient plagiarism, blaming it for widespread copying is akin to blaming a bank robbery on the presence of cash in the building. It is a factor, of course, but not the root cause of the behavior. Just as with bank robbery, the solutions to plagiarism must be multifaceted. Efforts must be directed at prevention as well as detection and punishment. Banks don’t leave piles of cash stacked by the front door. Educators should take care to make assignments that hinder plagiarists. It is also important to remember that it isn’t just vaults and security guards stopping bank robberies. The vast majority of people wouldn’t rob a bank even if they could (Bolkan 2006, p. 4).

Turnitin is a gastric band for plagiarism. It may block it, but it does not address the key problem: a lack of information literacy.

Only when enabling professional development, enhancing assessment and increasing the role of librarians may we move our students from information to knowledge.

Author Note: An earlier version of this paper was delivered as the keynote address at the Plagiarism.org 2012 conference at Gateshead, UK. This session was recorded and uploaded to YouTube.

BIODATA and CONTACT ADDRESSES of the AUTHOR

Tara BRABAZON is the Professor of Education and Head of the School of Teacher Education at Charles Sturt University (Australia), Fellow of the Royal Society for the encouragement of Arts, Manufactures & Commerce (RSA) and Director of the Popular Culture Collective. Tara has worked in eight universities in four countries. She has won six teaching awards, including the National Teaching Award for the Humanities, and has published 16 books and over 170 refereed articles and book chapters. Her new books are titled Digital Dieting: From Information Obesity to Intellectual Fitness (Ashgate, 2013), City Imaging: Regeneration, Renewal, Decline (Springer, 2013), Digital Wine (Springer, 2014), Enabling University (Springer, 2014) and Unique Urbanity (Springer, 2014).

Professor Tara BRABAZON
Professor of Education and Head of School of Teacher Education
Charles Sturt University, AUSTRALIA
URL: http://www.brabazon.net
Email: tbrabazon@csu.edu.au

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LEARNERS’ SATISFACTION LEVEL WITH ONLINE STUDENT PORTAL AS A SUPPORT SYSTEM IN AN OPEN AND DISTANCE eLEARNING ENVIRONMENT (ODeL)

Percia V. SECRETO
Office of the University Registrar,
University of the Philippines Open University,
Los Baños, Laguna, PHILIPPINES

Rhodora L. PAMULAKLAKIN
Office of the University Registrar,
University of the Philippines Open University,
Los Baños, Laguna, PHILIPPINES

ABSTRACT

Learner support in an open, distance and online learning is defined as “all activities and elements in education that respond to a known learner or group of learners, and which are designed to assist in the cognitive, affective, and systemic realms of the learning process” (Brindley, et. al, 2004). Teaching and tutoring, advising and counseling, and information and administration are the main institutional systems involved in learner support. The UP Open University functions under an open and distance e-learning (ODeL) framework of distance education where most of its academic and non-academic processes are done through the Internet. It has developed an online Academic Information Management System (AIMS) which serves as the gateway to the University’s academic operations. The Online Student Portal (OSP) is the component of the system for the students. OSP serves such functionalities as online registration, viewing of grades, request for their records, payment of fees, and information hub. The study analyzed the learners’ satisfaction with the portal’s functionality, efficiency, appearance, ease of use, and security. An online survey was conducted of continuing undergraduate and graduate students (n=147) who were admitted prior to the implementation of the portal and thus had experienced both the manual and online processes. The survey was conducted from September 26 to October 3, 2013.

In general, about 85 percent of those who participated in the survey were either very satisfied or satisfied with their overall experience of the portal. Ninety percent of the total participants found the portal cost-effective and informative. Overall, the participants identified the portal as a convenient and effective venue for getting accurate and immediate information about their performance, school activities, academic schedules, and other information relevant to their learning transactions. These features had made the portal an important student support tool that may enhance the learning experience of online learners.

Keywords: Learner support, online student portal, online registration, online learning, UP Open University, open and distance e-learning.

INTRODUCTION

Effective and responsive learner support services will help learners succeed in an open and distance e-learning (ODeL) environment as distance education students and ultimately achieve their learning goals. Learning support services are as important as providing learners with an excellent academic content to guarantee their educational achievement.
Student services are the “administrative backbone of higher education” and are oftentimes the first and last contact points of the students (Voorhis and Falkner, 2004).

Moreover, an adequate learner support services plays an essential role in creating a feeling of belonging to students who do not have access to traditional services (Usun, 2004).

Enrollment in online programs is fast increasing but retaining the students has been a huge challenge for institutions not successful enough to offer suitable support services to this progressive population (Bruso as mentioned in Floyd and Powell, 2004). Numerous studies have provided evidences that there is undeniably a high drop-out rate in online learning programs despite their increasing demand. White and Weight (2000), as cited in Steinbrown and Merideth (2003), reported that students leave because of isolation, accelerated pace, competing responsibilities and technical issues. This reality compels institutions with an ODeL structure to implement effective learner support practices to improve its retention and completion rates. Brindley et al. (2004) defined learner support in an open and distance learning as “all activities and elements in education that respond to a known learner or group of learners, and which are designed to assist in the cognitive, affective, and systemic realms of the learning process”. A study conducted by the Blackboard Institute (2010) among higher education institutions underscored the significance of effective learner support services in maintaining successful online learning experiences. In a similar manner, it described the student services as a “diverse set of offerings that institutions develop and deliver to enhance the student experience and improve learning outcomes”. These services range from admission and enrollment to student financial account and technical support.

As ODeL institutions expand their academic programs, their student population becomes more diverse, particularly in the students’ proficiency in technology (Floyd and Powell, 2004). The increasing diversity of students highlights the need to develop and implement support services that guarantee the students’ success. Essentially, online higher institutions should strive to provide adequate support services that are responsive to the academic and non-academic needs of the highly diverse and technologically oriented student population. A learner support system should likewise cater to “different cultures, different economic systems, different learners and different programs of study” (Mills, 2003). Otherwise, if institutions fail to provide quality learner support services, a decrease in learning achievement and satisfaction could be expected, and most likely, will lead to an increase in attrition (Nelson, 2007).

To address this issue, it is important that student services should be made available to learners at the time and place most convenient to them. This could potentially be achieved by putting these services on the web. Establishing online support services is a way of ensuring immediacy. According to Mehrabian (1969) in Bozkaya and Erdem Aydin (2007), immediacy is “conceptualized as those nonverbal behaviors that reduce physical and/or psychological distance in interpersonal communication.” As reported by Bozkaya and Erdem Aydin (2007), immediacy as perceived by the learner in a distance learning environment can be viewed as an indicator of a reduced feeling of isolation. Such feeling of isolation should be reduced, if not eradicated, since it demotivates learners to continue their study. The growing accessibility of ICTs and their increasing sophistication may greatly contribute to the reduction of isolation. When support services are made online, they are made available to students anytime, anywhere (Kenworthy, 2003), and, thereby, ensure immediacy. The online student portal was framed within this concept.

OSP is an internet-based application that offers a variety of services. It provides students a 24/7 “centralized point of access to information and services” and it is designed as a one-stop site in providing personalized services to students, faculty and staff (Presley and Presley, 2009). Liao et al. (2011) emphasized the importance of constantly improving the usefulness of portals to meet the demands of users and in order to promote portal loyalty, users must be provided with “increasing and pleasurable experience”. 
Though OSP offers a great potential in reducing the effect of isolation in distance education, it should be developed in a manner that satisfies certain needs of the learners. According to Hara and Kling (1999), poorly developed and structured web-based applications cause learners to be frustrated. Their frustrations will inhibit the learners’ education opportunities (Hara and Kling, 1999).

As Reber (1985), in Hara and Kling (1999), indicated, sustained frustrations interfere with pursuing learning goals. According to Darke (1988) in Hara and Kling (1999), students with high levels of anxiety have reduced storage and processing capacity of their working memory, and thereby, are unable to make inferences. Jonassen and Grabowski (1993) also cited that high frustration could demotivate students. Since distance education requires that students be self-regulated, it is necessary that they should be provided with an online support system that could minimize their frustrations, and thereby, motivate them to stay in their program.

The concepts of immediacy and motivation guided the study. It was conducted to analyze learners’ satisfaction of the existing online student portal as a tool that provides immediate information to learners, and as a form of student support system in the University of the Philippines Open University (UPOU). Five elements of the OSP were being evaluated, namely: functionality, efficiency, appearance, ease of use and security. To improve the portal, the survey also asked the learners to suggest features that can be added to the existing functionalities to maximize their experience as ODeL learners.

**METHOD**

The UP Open University and Its Academic Information Management System

The study was conducted in the University of the Philippines Open University (UPOU), which is the fifth constituent university of the University of the Philippines System. Established on 23 February 1995, it is mandated to provide wider access to quality higher education. UPOU offers one pre-baccalaureate program, two baccalaureate programs, ten post-baccalaureate diploma programs, 13 master’s programs, two doctoral programs, and 10 non-formal courses by distance education. During the first term of the Academic Year 2013-2014, UPOU had a total enrollment of 2,890. Majority of the students are enrolled in the graduate programs (74 percent) while the rest are enrolled in undergraduate (17 percent) and certification programs (8 percent). Geographically, about 20 percent of the enrolled students are based outside the country while 34 percent reside in Metro Manila. The remaining 46 percent live in the different provinces of the country.

UPOU established several learning centers across the country. These centers provide various forms of support services to students. In the early years of the University, all academic and non-academic processes were conducted in these centers with the help of a learning center coordinator. Learners go to the learning center to register, submit their assignments, request for documents, get their grades and course materials, attend a general orientation, take examinations, and sometimes, participate in a face-to-face study session. The learning centers also provide a limited library service where learners borrow learning modules, volume readers, or even references used in their courses. To date, UPOU has 7 learning centers, 22 testing centers and one virtual learning center that cater to students who are based outside the country.

In recent years, UPOU functions under the ODeL framework of distance education where most of its academic and administrative processes and services are done through the Internet. In support of this thrust, the Office of the University Registrar conceptualized and later developed an online Academic Information Management System (AIMS), which serves as a one-stop site for the needs of all the University’s constituents. AIMS consists of five portals (Figure 1), each of which serves different users. Among these portals, the Online Student Portal (OSP) is the AIMS component that serves the students. OSP was rolled out in 2012, and has undergone several revisions to allow more self-service transactions. It is designed to become a one-stop-shop online system that provides customized services to the students.
As a learner support system, OSP enables the students to do the following activities online: enrollment, viewing of grades, payment, request for documents, and academic advisement. In addition, OSP also provides links to other systems in the university including the learning management system called the Myportal, e-library system, students’ evaluation of teachers system, the University’s website, and the UPOU networks (Figure: 2).

Data Collection, Analysis, and Visualization
An online survey was administered from September 26 to October 3, 2013, to continuing undergraduate and graduate students who were admitted prior to the implementation of the online student portal and had experienced the manual and online registration process, viewing of grades, request for documents, and the like.

The survey aimed to assess the students’ satisfaction with the online student portal’s usefulness, functionality, efficiency, appearance, ease of use, completeness and security. It
also looked into the student’s assessment of the administrative and technical support as well as the student’s overall satisfaction with the online system as compared to the manual system. The survey instrument consists of 14 items distributed as follows: eight questions about the learner’s profile; three items to determine the learner’s satisfaction and frequency of use, and three questions about their personal views and suggestions.

An invitation and the link to the online survey were sent to students through email. An announcement about the ongoing survey was also posted on the student portal. A total of 147 students completed the survey representing a 16.3 percent response rate. The respondents’ profile was presented in a table and the learners’ responses in terms of their satisfaction with the OSP with its various parameters were presented in graphs. Descriptive statistics such as mean, ranges, percentages, and the like were computed and used to describe the satisfaction level and assessment of learners of the OSP. Data were visualized as tables and graphs.

RESULTS

Survey Participants’ Profile

Table: 1 summarizes the distribution of participants (n=147) according to gender, age, place of residence, and program classification.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>57</td>
<td>39%</td>
</tr>
<tr>
<td>Female</td>
<td>90</td>
<td>61%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 20</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>21-30</td>
<td>50</td>
<td>34%</td>
</tr>
<tr>
<td>31-40</td>
<td>56</td>
<td>38%</td>
</tr>
<tr>
<td>41-50</td>
<td>25</td>
<td>17%</td>
</tr>
<tr>
<td>51-60</td>
<td>13</td>
<td>9%</td>
</tr>
<tr>
<td>Above 60</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philippine-based</td>
<td>126</td>
<td>86%</td>
</tr>
<tr>
<td>Offshore</td>
<td>21</td>
<td>14%</td>
</tr>
<tr>
<td>Program Classification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undergraduate</td>
<td>31</td>
<td>12%</td>
</tr>
<tr>
<td>Graduate</td>
<td>111</td>
<td>85%</td>
</tr>
<tr>
<td>Certification</td>
<td>5</td>
<td>3%</td>
</tr>
</tbody>
</table>

As indicated in Table: 1, majority of the participants were female (61 percent) and the rest were male (39 percent). Of the total, about 65 percent were adult learners with ages from 31 years old and above. Though UPOU’s students are dispersed in various countries, most of them (86 percent) were currently residing in the Philippines.
As expected, more participants (85 percent) belong to the graduate programs of the University while the rest are taking undergraduate (12 percent) and certification programs (3 percent). As cited above, the University offers more graduate than undergraduate programs.

Learners’ Access to the Portal

Figure: 3 indicates that survey participants used the portal for several activities such as enrollment, viewing of grades, requesting for documents, reading announcements, accessing the learning management system, and the like. More than 80 percent reported that they always visited the portal for online registration. Online registration is a feature of the portal that allows learners to choose what courses to enroll in a term, to enroll them, pay the matriculation fees, and access the online system for making an order for their course learning materials. This feature has allowed efficient and immediate confirmation of learners’ enrollment, and generation of course lists. Likewise, it can generate immediately a list of enrolled learners at the end of the registration period. The list is necessary for the enrollment of registered learners in the learning management system. It is essential that enrollment data be made available to all concerned units in the university as soon as the enrollment ends so as not to impede all other administrative operations such as creation of course sites, dispatch of materials and the like.

The items ‘viewing of grades’ and ‘access Myportal’ appear to come after online enrollment in terms of frequency of use (Figure 3). In fact, more than 60 percent of the respondents indicated that they are always using the portal for these activities. Online viewing of grades is a feature of the portal that may enhance learners’ motivation.

After the faculty-in-charge or the professor submits his/her grades through the faculty portal, the grades become visible to learners, and thus the portal provides an immediate feedback to learners’ performance. With immediate feedback, students are motivated to continue their studies and/or perform better in their next learning transactions. In a study conducted by Lemley et al. (2005), it was noted that learners who were given immediate feedback with regard to their academic performance had significantly greater amount of time to complete their coursework. Online viewing of grades hastens the process of informing the students of their performance.

This online viewing of grades is beneficial to students because they can immediately keep track of their academic progress, and, therefore, they would be able to plan for their coursework in the succeeding terms. On the other hand, delayed information may cause frustration and may demotivate the students to enroll again and continue their studies.
Cases were reported cases of some UPOU students who did not enroll in the succeeding term because they had not yet seen their grades.

Students also make portal visits to access the course site Myportal, read announcements, read the course catalog, and download forms. Links to these services are also found in UPOU’s main website. There are some students who access these sites and information through the website other than the OSP. Pullan (2011) underscored the importance of availability of timely information about specific requirements to make sure that the learners are enrolling in courses that are applicable to their degrees. The detailed information permits the learners to make informed decisions.

Activities such as requests for documents and teacher evaluation showed slight portal visits as these are considered as optional processes. Students are not required to do them. With the online document request system, however, there is a significant reduction in the time spent by students to perform this activity. This is also beneficial to students because they would have more time for learning and studying, or accomplishing other academic tasks.

The program chair messaging activity notably has the least portal visits. This messaging functionality was made available in the portal to aid in the academic advisement, especially during registration. Currently, some programs have their own micro-sites and self-advising checklists to aid academic advisement. Some students directly contact their Program Chair/Adviser through email for inquiries and consequently students rely less on the OSP for that purpose.

Technical and administrative services are crucial in an online student portal to provide adequate and meaningful learner support experiences. Even as the students are capable of doing self-help transactions online, there are still other administrative matters that need to be provided to the students through helpdesks. To help address these concerns, links to other administrative support areas such as faculty office, library, management information system office, dispatch units and other service units are also available in the student portal. Moreover, as a web-based facility, the portals are available 24/7 and therefore ensure reliability of networks and asynchronous access, which are essential features of a student portal. A summary of answers to frequently asked questions (FAQs) about enrollment is also available on the OSP. Such a summary immediately addresses the learners’ inquiries and needs for assistance during enrollment.

**OSP vs. Manual System**

Figure: 4 summarizes students’ responses on the items that compare the online student portal and the manual system of performing non-academic processes.

![Figure: 4](attachment:image)

**Figure: 4**
A comparison of the students’ assessment of the current OSP and the manual system in percentage
About 90 percent of the total participants believed that OSP is more convenient, more cost-effective and more time-efficient than going to the learning center to carry out certain non-academic processes. Only 10 percent responded otherwise. The convenience, accuracy, time-saving and cost-saving features that learner support services provide may help reduce the learner’s anxiety and enable the learner to devote more time and attention to more essential things, such as studying.

As indicated by the results of the survey, the portal is better than the manual system which was previously practiced by the University. With the online portal, students are freed from the hassles of lining up during enrollment and payment of matriculation fees. Moreover, it offers more convenience to the learners since the system is available 24/7 anywhere, including offshore students who have different time zones from those who are based in the Philippines. This is evident in learners’ responses when asked to compare OSP and the manual system (Figure 4). More than 70 percent of the respondents identified the online portal as more convenient than the manual system. In addition, respondents avoided the costs of visiting the learning center. In the manual enrollment system, the learners incurred two forms of costs, namely, transportation and opportunity costs of the time lost when they left from their work. It is noted that most of the learners in UPOU are working people. With the manual system of enrollment, they needed to leave their work to go to their learning centers. The costs may be huge when their work posts are far from the learning center. Though there seems to be paucity of information on the effects of cost-savings in the students’ learning process, the avoidance of costs by the learners with OSP may improve learners’ motivation, and thus, may improve learning outcomes. Baker (2012) indicated that aggregate measures of per-pupil spending are positively associated with learning outcomes. In some cases, additional funding appears to matter for some students (Baker, 2012). This can be the reason why there were more participants in the survey who evaluated the portal to be much better than the manual system in terms of time and cost efficiency (Figure 4).

Learners’ Satisfaction Level with the Use of the Portal

As indicated in Figure 5, the three leading features of the portal based on the students’ evaluation were its reliability, accessibility, and simplicity and clarity of instructions. More than 80 percent of the participants were satisfied with the said features of the portal. These features are important for ODeL students because they usually do their academic activities outside of their work schedules (Nelson, 2007). The 24/7 availability and accessibility of the
system helps the learners save time and money in fulfilling their learning tasks. The clarity and simplicity of the portal’s instructions had also reduced the navigational time that each learner spent in performing certain tasks in the portal.

Consequently, this has increased the available time that they can spend in achieving the learning tasks of their courses. Though there is no hard data available for this, the time spent in going to their learning center to do the same tasks may be saved, and potentially may be used instead for doing their assignments or studying their lessons.

Learners’ Satisfaction with the Portal as a Web-based Support System

Figure 6 shows that more than 60 percent of the participants reported that they are satisfied with the usefulness, functionality, efficiency, appearance, ease of use, completeness, and security of the portal as a support system. About 30 to 70 percent had indicated a very satisfactory experience with the system vis-à-vis the parameters investigated. The rest were either neutral or not satisfied with the system.

The result is important for it will help improve some features of the portal and make it more attractive to the students as it gives valuable support to them.

The system needs to be enhanced in order to increase the University’s efficiency in its student-related administrative activities. As more students use the portal frequently, the University may reduce its face-to-face or manual procedures, and thereby, save the costs associated with them. As reported by Amer (2012), students will be satisfied with the system if it is “user’s friendly, secure, easy to use and visibly attractive to users.” He further argued that students’ high satisfaction level would lead to high University efficiency. Liao (2011) also pointed out that portals should be attractive and able to provide an increasing and pleasurable experience to students so that they would be able to develop loyalty, and use it more frequently. When asked which functionality of the system they found useful to them as online learners, the participants indicated the following:
I love the Online request for documents.

Messaging

The "Advanced Credentials" part.
Announcements (mentioned above) but specifically about student-related activities

The news posted in the student portal is also useful because we became aware with what is happening in UP system.

I find all the support system available very helpful

I was able to use that option where I could send a message to the program chair from the site itself. This is very useful because it saves us time in looking for the email addresses in case it isn't yet saved in our profiles.

Suggested Additional Features
To further enhance the usability of the portal as a web-based support system, the participants were asked to identify or suggest additional features that they think can help them perform their administrative transactions in the University. Some of the features suggested were as follows: integration of OSP with the learning management system (MyPortal), alert or reminder system for important activities, compatibility with tablets and other mobile devices and gadgets, provision of a chat/messaging feature with peers and classmates, and availability of links to online journal resources. Some of the responses are shown below:

1. integration of OSP with the learning management system (MyPortal):

   "Another feature that I feel should be included in the Student Portal is integrating it with moodle so a student like me doesn't have to log into different websites in order to do various activities for school".

2. inclusion or alerts and reminders for important activities:

   "Is it possible to have a pop up alert on our deficiencies?"

   "Reminders for enrollment or any other important dates."

3. availability of resources for online journals and the link:

   "Easier, faster access to UPOU Library"

   "More updated journals, research papers and the like"

   "One-stop access center for online journals".

4. provision of a chat/messaging feature with peers and classmates:

   "A lounge? Where students can interact with administration, live?"

   "Coordination and interaction with peers / classmates"

   "Create yahoo groups or online groups within the portal if possible."
5. compatibility with tablets and other mobile devices and gadgets:

"I think it is okay, I have no complaints except when I am using my tablet just to browse for updates on my courses the mobile version is a bit challenging to manage."

"Student portal version suitable for mobile devices/ gadgets"

While most of the respondents expressed satisfaction with the current OSP, other features were suggested to improve the services of the portal. One respondent proposed the OSP’s integration with Myportal, the learning management system of the university, to avoid multiple sign-ons by the students when accessing these sites.

Others emphasized the creation of online groups where learners can interact with the teacher, staff and fellow learners to promote social interaction. Bandalaria (2011) concluded that “learning communities in ODeL not only address the issue of attrition or persistence by providing learners with the sense of belonging but importantly help address or ensure quality of education...”

Results further revealed that learners are not only satisfied with the current system, but are also looking forward to a more personalized and mobile form of support. This is understandable because learners are full-time workers and at the same time are mobile. Others, however, may have less access to an Internet facility; for this reason, mobile facilities may reduce time spent looking for the facility, and thus gain more time for their learning activities. In general, students’ learning will be made effective if the time spent for administrative activities will be reduced significantly

Though OSP could not provide solutions to all the needs of the learners, its availability in the web and accessibility 24/7 anywhere has improved learners’ transactions with the University. Their levels of satisfaction indicate that the portal has made a significant contribution to their learning experience in the University. If sustained or improved, the portal may be used as a tool to improve learners’ retention.

DISCUSSION

This study investigated the UPOU students’ satisfaction with the current features of the OSP. In general, results show that the level of satisfaction on the OSP in providing learner support is relatively high. Many respondents expressed their opinion that the current features of the OSP are sufficient in meet their needed support services. A few suggestions were also presented to further improve the portal.

The use of an online student portal is now becoming an essential part of the learners in an ODeL environment. For this reason, it is crucial that continuous evaluation of the learner’s satisfaction be done to determine if this kind of learner support system is successful in giving the students meaningful learning experiences in the university. It must be “redefined and implemented systematically” to guarantee satisfaction and success among all students. It must also be learner-centered and user friendly (Floyd and Powell, 2004).

In the development of the OSP, the learners were given the utmost significant consideration. Their needs, expectations and uniqueness were considered in the development stage of the portal. Continuous improvement is being undertaken based on the students and other users’ accumulated experiences. In his study, Abuhamdieh (2007) mentioned that while portal system vendors offer a full-featured package, a “phased portal implementation and adding features as user’s experiences grow and accumulate is favorable to a full implementation
that could otherwise be perceived an overwhelming and draw unintended negative reactions”.

In the implementation of a student portal, it is not only crucial to provide the process requirements. Usability testing must also be conducted to identify errors and bugs during development (Voorhis and Falkner, 2004). Continuous search for ways to improve the services must be undertaken to guarantee that the portal meets the changing needs of the learners.

To sum it up, learners take the center stage in an ODeL environment. The learners are the important users of the student portal, and thus it is imperative that their welfare be given utmost attention. Learners and staff should be involved in the development of the student portal to ensure that all the elements available in the portal are really crucial and useful to all its users. Acknowledging the significance of a learner-centered support system is essential to providing the students opportunities to succeed in an ODeL environment.

CONCLUSION

The study determined the satisfaction level of the learners who used the existing online student portal (OSP) of the University of the Philippines Open University. The study conducted a purposive online survey involving learners who have experienced both the manual and online systems. Participants (n=147) indicated a high satisfaction level with the portal’s accessibility and availability, content, and appearance. Likewise, they were also satisfied with the current elements of the portal (i.e. usefulness, functionality, efficiency, appearance, ease of use, completeness, and security). They evaluated the portal based on their experience in using it during enrollment, viewing of grades, requesting for documents, reading announcements, accessing the learning management system, and the like. Online registration and viewing of grades are two important functionalities of the portal that maximize the learning experience of the learners in the University. These functionalities provide immediate feedback to the learners in their transactions with the University. The online registration gives them immediate confirmation of their registration while the online viewing of grades allows them to know their performance immediately at the end of the term.

Learners have also suggested features that can be added to the existing functionalities of the portal. These features include the integration of the portal to the learning management system of the University, alert or reminder system for important activities, compatibility with tablets and other mobile devices and gadgets, provision of a chat/messaging feature with peers and classmates, and availability of links to online journal resources. They saw how these features would help maximize their learning experiences and/or help them in their learning transactions with the University.

If the portal is improved, it may be used as a tool to increase retention of learners in their programs of study.

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BIODATA and CONTACT ADDRESSES of the AUTHORS

Percia V. SECRETO is a member of the administrative staff at the Office of the University Registrar, University of the Philippines Open University (UPOU). She has served as subject matter expert and resource person in the development of various student-related information management systems in UPOU. Her areas of interests are learner support, distance education and online enrollment. In the recent years, she has presented papers in various international conferences in the areas of e-learning, gender equality and learner support system. She completed her master’s degree in professional studies major in education management at the University of the Philippines Los Baños.

Percia V. SECRETO (Correspondence)
Office of the University Registrar,
University of the Philippines Open University,
Los Baños, Laguna, PHILIPPINES
Tel: 63-49-536-6001, ext: 102.
Email: percia.secreto@upou.edu.ph

Rhodora L. PAMULAKLAKIN is an administrative staff member at the Office of the University Registrar, University of the Philippines Open University (UPOU). She completed her bachelor’s degree at the University of the Philippines Los Baños. She has served as subject matter expert in the development of various student records management systems in UPOU.

Rhodora L. PAMULAKLAKIN
Office of the University Registrar,
University of the Philippines Open University,
Los Baños, Laguna, PHILIPPINES
Tel: 63-49-536-6001, ext: 103
Email: rhodora.pamulaklakin@upou.edu.ph

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NEW TECHNOLOGIES AND SCIENCE TEACHERS EDUCATION WITHIN THE CONTEXT OF DISTANCE LEARNING: A Case Study for the University of Lagos

Ademola Johnson ADEWARA
Distance Learning Institute,
University of Lagos, NIGERIA

Olufunke LAWAL
Distance Learning Institute,
University of Lagos, NIGERIA

ABSTRACT

The Open and Distance Learning (ODL) education for science teachers is seen as a solution to the problems of equity and access to teacher education in Nigeria. It is used to provide cost-effective Science Teacher Education, and to train large numbers of teachers within a short period of time. The need for training science teachers through ODL systems is becoming more critical and necessary. The study explored the contribution of Science Teacher Education within the context of Open and Distance Learning in the following areas: time spent on electronics devices, skill development in the use of computer technologies and applications, Extent of use of IT in courses and course management system features. The study used a survey method. Stratified sampling technique was adopted. Two hundred and fifty (250) questionnaires were sent out and one hundred and seventy three (173) were returned. The result shows that there is a significant positive correlation between science teachers education within the context of Open Distance Learning and time spent on electronics devices, skill development in the use of computer technologies and applications, Extent of use of IT in courses and course management system features at R=0.688, 0.625, 0.165, 0.607, 0.500, with the p value of < 0.05 level of significance. This result implies that increase on each of these variables will further enhance Science Teacher Education.

Keywords: CD-ROM, interactive Video, Information Technology, In-service teacher, inquiry-centered, pedagogic skills.

INTRODUCTION

Constant improvement in education in Nigeria is required in the area of teaching and learning from the primary school level up to the university. The adopted or inherited system of education needs to be redesigned from face to face method of teaching to new technology-based methods for a more effective delivery:

practical aspects of science subjects while most of them lack adequate knowledge of subject matter and the competence to deliver.

Also, there are few classrooms where teachings are done with practical demonstrations.

When such demonstrations are occasionally used, they are often mostly carried out by the teacher, and this makes students passive. There are also few traditional hands-on (practical) classes. Science lessons in most Nigerian classrooms are yet to be structured, guided and students-directed Omoifo, C. N. (2012).

Poor quality of science teachers in terms of adequate knowledge base and pedagogic skills is another factor identified to influence students’ performance. The teacher’s academic qualifications and knowledge of subject matter, competencies and skills, and commitment have a great impact on the teaching/learning process. There should be proper staffing of schools in terms of quality and quantity.

There should also be provision of modern teaching–learning resources such as the Internet, computers, interactive board and a variety of science materials to engage learners in inquiry-centered science learning. To attain the desired level, there is the need to embrace distance learning education for science teachers as a solution to problems of equity and access to quality education and rapid technological and economic development of the country.

Distance education has been used to provide cost-effective science teacher education, and it can be used to train and provide quality large numbers of teachers within short periods of time. This calls for the re-positioning of the universities in Nigeria to distribute knowledge production systems by using available tools and resources such as ICT to improve their activities. This paper attempts to investigate the use of new technologies in the training of in-service science teachers of Distance Learning Institute, University of Lagos.

LITERATURE REVIEW

Learning in Information Age requires new teacher role. Teachers cannot depend only on the traditional tools such as chalk, textbooks, overhead video projectors and other types of traditional instructional materials to teach students the skills required for survival in the Information Age.

They have to use technologies of the day such as computers, interactive video, CD-ROM, satellite communications; these entail new teacher roles.

The development and use of these Information and Communications Technology (ICT) devices and ideas to promote human learning is the hall-mark of an ICT-driven curriculum. Effective implementation of this type of curriculum requires new teacher roles regarding the ‘what’ and ‘how’ of instruction. The era when teachers were traditionally considered as “directors, lecturers and disseminators of information” Rhodes, D. (1990) is over. The new roles of teachers include being managers and leaders of instruction. Rhodes, D. (1990) Opines that teachers should assume the roles of seekers, long-range planners, collaborators, researchers and mentors/mentees. However a teacher cannot assume these roles unless he/she is at home with the ICT.

There has been a consistent effort in many countries to promote an ICT teacher/learner empowerment culture. In 1997, the Department for Education and Employment (DFEE) in the UK published the National Grid for Learning which is the government consulting paper
on “extending access and making available to all learners the riches of the world’s intellectual cultural and scientific heritage” (DFEE).

In Simpson, M.; Payne, F; Munro, R; and Hughes, S. (1999) also it was mentioned that appropriate targets for the development of skills in both serving and trainee teachers in Scotland were set and published by the Scottish Office Education and Industry Department in 1998. In the same year, the Teacher Training Agency in England set out guidelines and Teacher ICT literacy requirements.

McFarlane, A. (1997A) opines that between 1981 and 1994, the UK government spent up to £189 million on the development of Information Technology (IT) in schools. As regards the training of teachers, McFarlane, A. (1997A) remarks that by 1995 the Department for Education (DFE) proudly indicated that 90 percent of teachers were computer literate. Commenting on the growth of access to multimedia in schools in UK McFarlane, A. (1997B) notes that “in 1996, 35 percent of primary schools had a multimedia capable computer and some multimedia titles published in CD-ROM”.

According to Olaseni, M. & Alade, W. (2012) the Nigerian Vision 20:20 20 is an outcome of a research by the American Investment Bank which predicted that Nigeria will be in the league of 20 top economies based on the assessment of her abundant natural and human resources, with the assumption that these resources will be effectively managed. Based on this assumption, Nigeria launched the Vision which she hoped would place her on the path of sustained social and economic progress, and accelerate the emergence of a truly prosperous Nigeria.

Also with the fact that Nigeria is blessed with enough natural resources, there is the possibility of improving her citizens’ living standards.

The science teachers’ preparation would go a long way in addressing the challenges of vision 20: 20-20 and to achieve all its goals. Obanya, P. (2002), when discussing the need for quality teachers’ recruitment, re-education, motivation, and retraining, described a revolutionary type of teacher as a person: who has wholeheartedly accepted the new vision of secondary education and who has internalised the underlying principles of its new pedagogy; whose teaching style is governed by flexibility and who can experiment in the face of new challenges; whose approach to specialisation is sufficiently broad to emphasise understanding and solving teaching-learning problems in favour of merely distilling codified knowledge; and who will be a willing participant in the task of continuously improving the delivery of secondary education.

For the system to have this type of science teachers, adequate preparation is necessary to intimate them with the vision 2020 and its challenges.

In order to face the challenges, Abdullahi, S.A. (2007) suggested that the new education plan should endeavour to create viable and enabling programmes amidst the challenges of private versus public education, funding, instructional methods, research, and teacher education, citizenship education programmes, and activities that have become crucial to sustaining the goals, objectives, and aspirations of the nation.

The challenges identified by the Education Sector National Technical Working Group (2009) include inability to provide unfettered access to quality education at all levels, dearth of qualified and competent teachers, little or no relevant skills in ICT and poor motivation for their acquisition, low intrinsic value for education, inadequate number of schools and
classrooms, security of teachers and increase in students’ enrolment in senior secondary schools.

Science is a core subject at all levels of education in Nigeria. Science education is also to provide a more effective preparation for citizenship. In order to achieve this, qualified and highly scientifically literate teachers are required who are well aware of their global demands for teaching with a view to engendering scientific and technological values in learners.

Omoifo, C. N. (2012) emphasised that science teachers therefore, need to recognise the nature of scientific endeavours and how it relates to science teaching if they are to help their students completely understand the content and underlying principles of science. Science teachers as a matter of interest need to be aware of national educational policies and goals in order to discharge their teaching activities towards achieving those goals whatever be their gender, type of school and school locations.

Furthermore, to achieve these objectives a school of thought suggested that the need for improvisation is a pedagogical intervention strategy that teachers may use to address similar situations by being resourceful in the making and use of locally available materials where conventional equipment and or apparatus may be inadequate or not available at all. Inyega, J. and Tompson, N. (2002). Low-cost materials produced through improvisation are not an attempt to provide a watered down science education, but low cost in the mentioned sense is highly creative and highly productive, provides opportunities for creativity and development of manipulative abilities and concepts that are learnt and internalized by concrete and experience.

**METHOD**

A survey research method was adopted in this paper. The questionnaire had eighty-one items and the items were based on New Technologies and Science Teacher Education. The items included: demographic information, time spent on electronic devices, skill level using computer technologies and application, Information Technology, extent of use of IT in courses and course management system features.

This was administered to the Science Education Students of Open and Distance Learning Institute, University of Lagos, Akoka Nigeria. Stratified sampling technique was adopted in this research. Two hundred and fifty (250) questionnaires were sent out and only one hundred and seventy three (173) were returned. Descriptive statistics was explored for some sections of the questionnaire while regression analysis was used to explore the contribution of Science Teachers Education within the context of Open and Distance Learning to the following items:

- time spent on electronics devices,
- skill level using computer technologies and application, Information Technology, extent of use of IT in courses and course management system features

The test of reliability of the responses on the 53 items in the assessment of new technologies and science teachers’ education within the context of distance learning, using standardized Cronbach’s Alpha is obtained as 0.904 (90.4%) with mean response scale statistics of 3.04 and standard deviation (SD) of 0.759.
This result suggests that the instrument of evaluation is highly reliable judging from the fact that $90.4\% > 70\%$. Similar results obtained in other sections of the questionnaire also supported that the questionnaire developed was reliable.

Data Analysis and Result
Reliability analysis of new technologies for in-service teachers by the students at DLI University of Lagos

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Scale Statistics</th>
<th>Reliability Statistics</th>
<th>Validity Statistics (ANOVA)</th>
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<tbody>
<tr>
<td>Source</td>
<td>N of Items</td>
<td>Mean</td>
<td>STD</td>
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<tr>
<td>Time Spent on electronics devices</td>
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<td>2.83</td>
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<tr>
<td>Skill level using computer technologies and application</td>
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<tr>
<td>Information Technology</td>
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<tr>
<td>Extent of use of IT in courses</td>
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<tr>
<td>Course Management system features</td>
<td>9</td>
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<tr>
<td>Pooled Data</td>
<td>53</td>
<td>3.04</td>
<td>0.759</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2014. STD (Standard Deviation)

Also, the result showed that there is an internal consistency of the items in the instrument (questionnaires) used for the data collection. The validation of the reliability results of instruments is carried out using analysis of variance (ANOVA) to test if there is significance variation on how the respondents rated the items in the instrument. The results suggested that there is no significance variation on the rating of the items by respondents in the instruments at F-value=11.021, since $P-values=0.000 < 0.05$ significant level. The result is supported by coefficient of variation (CV)=0.25<0.50 threshold, implying homogeneity on how the respondents rated the items. Hence, the reliability of the instrument is significant, which validates the adequacy of the questionnaire.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Characteristics</th>
<th>Freq.</th>
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<td></td>
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<td></td>
<td>30 – 39</td>
<td>67</td>
<td>39.4</td>
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<td></td>
<td>40 – 49</td>
<td>12</td>
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<td>50 – 59</td>
<td>2</td>
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<tr>
<td></td>
<td>&gt;= 60</td>
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<td>0</td>
<td>30.2 years</td>
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<td>CGPA</td>
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<td>29.5</td>
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<td></td>
<td>2.40 - 3.49</td>
<td>55</td>
<td>35.3</td>
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</tbody>
</table>

The result of the demographic studies shows that 54.9% (95) are male while 45.1% (78) were females.

The age groups of the respondents were also considered in the study. The result shows that 52.4% (89) were between the age of 20-29, 39.4% (67) were between the ages of 30-39, 7.1% (12) were between the age of 40-49 while overall average ages of the DLI students was 30.2 years.

The Cumulative Grade Point Average (CGPA) was considered in this study.

The results shows that 29.5% (46) were on third class, 35.3% (55) were in second class lower, 30.1% (47) were in second class upper and 5.1% (8) were in first class.

The average CGPA is 2.99. The students’ area of specialization/discipline was considered in this survey. The result showed that 36.1% (57) were admitted for mathematics, 7.6% (12) were chemistry, 41.8% (66) were for Biology and 14.6% (23) were for physics.

**Research Hypothesis 1**

Ho: Science Teachers Education within the context of Open and Distance Learning has no significant effect on time spent on electronics devices, skill level using computer technologies and applications, Information Technology, extent of use of IT in courses and course management system.

<table>
<thead>
<tr>
<th>Variables</th>
<th>DV</th>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>V4</th>
<th>V5</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science Teachers Education within the context of Distance Learning</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.830</td>
<td>0.57642</td>
<td>200</td>
</tr>
<tr>
<td>Time Spend on electronics devices</td>
<td></td>
<td>.688*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>2.856</td>
<td>0.97644</td>
<td>198</td>
</tr>
<tr>
<td>Skill level using computer technologies and application</td>
<td></td>
<td>.625*</td>
<td>.338*</td>
<td>1</td>
<td></td>
<td></td>
<td>2.643</td>
<td>0.75262</td>
<td>182</td>
</tr>
<tr>
<td>Information Technology</td>
<td></td>
<td>.165*</td>
<td>.146*</td>
<td>-.108*</td>
<td>1</td>
<td></td>
<td>3.056</td>
<td>1.05790</td>
<td>177</td>
</tr>
<tr>
<td>Extent of use of IT in courses</td>
<td></td>
<td>.607*</td>
<td>.114*</td>
<td>.259**</td>
<td>.279*</td>
<td>1</td>
<td>2.678</td>
<td>0.97192</td>
<td>175</td>
</tr>
<tr>
<td>Course Management system features</td>
<td></td>
<td>.500*</td>
<td>.002*</td>
<td>.171*</td>
<td>.260*</td>
<td>.462*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*. Correlation is significant at the 0.05 level (1-tailed). R=0.964. R²=0.929.

The Pearson correlation result suggests that there is a significant positive correlation between Science Teachers Education within the context of the Open and Distance Learning and Time Spent on electronic devices, skill level using computer technologies and applications, Information Technology, extent of use of IT in courses and course management system features at \( R=0.688, 0.625, 0.165, 0.607, 0.500 \), since \( p < 0.05 \) significant level.
This result implied that increase on each of these variables will further enhance Science Teachers Education. This result is supported by multiple correlation at $R = 0.964$ (96.4%), which shows positive correlation between the explanatory variables and Science Teachers Education within the context of Open and Distance Learning.

The variation accounted for in the model is given as $R^2 = 0.929$ (92.9%), which is the amount of information the independent variables have about the dependent variable. The model adequacy is ascertained in the ANOVA table.

Table: 4
Analysis of Variance (ANOVA)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>50.920</td>
<td>5</td>
<td>10.184</td>
<td>417.562</td>
<td>0.000</td>
</tr>
<tr>
<td>Residual</td>
<td>3.902</td>
<td>160</td>
<td>.024</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>54.822</td>
<td>165</td>
<td>.024</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The ANOVA table shows that the variation in the dependent variable accounted for by the model is adequate at $F = 417.562$, $p < 0.05$.

Hence the model is acceptable for result utilization and further analysis. The effect of the independent variable on the dependent variable is examined in the regression analysis.

Table: 5
Regression Analysis Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>.102</td>
<td>.070</td>
<td>1.450</td>
<td>.149</td>
<td>Tolerance</td>
</tr>
<tr>
<td>Time Spend on electronics devices</td>
<td>.332</td>
<td>.013</td>
<td>.563</td>
<td>24.817</td>
<td>.000</td>
</tr>
<tr>
<td>Skill level using computer technologies and application</td>
<td>.206</td>
<td>.015</td>
<td>.325</td>
<td>13.872</td>
<td>.000</td>
</tr>
<tr>
<td>Information Technology</td>
<td>.099</td>
<td>.018</td>
<td>.129</td>
<td>5.636</td>
<td>.000</td>
</tr>
<tr>
<td>Extent of use of IT in courses</td>
<td>.162</td>
<td>.014</td>
<td>.297</td>
<td>11.877</td>
<td>.000</td>
</tr>
<tr>
<td>Course Management system features</td>
<td>.162</td>
<td>.014</td>
<td>.273</td>
<td>11.250</td>
<td>.000</td>
</tr>
</tbody>
</table>

Multiple regression analysis was used to determine the effect of the independent variables on the dependent variable. Science Teachers Education within the context of Distance Learning represents the dependent variable, while time spent on electronics devices, skill level using computer technologies and applications, Information Technology, extent of use of IT in courses, course management system features represent the independent variables. The result of the analysis reveals that all the explanatory variables are significant at $t = 24.817$, $13.872$, $5.636$, $11.877$ and $11.250$ respectively, $P < 0.05$.

Hence, time spent on electronic devices, skill level using computer technologies and applications, Information Technology, extent of use of IT in courses, course management
system features have significant direct effect on Science Teachers Education within the context of Open and Distance Learning.

The adequacy of these results is supported by Variance Inflation Factor (VIF), which shows no significant multi-collinearity since the values are all less than 2. The regression model is given as:

$$DV = 0.102 + 0.332V1 + 0.206V2 + 0.099V3 + 0.162V4 + 0.162V5$$

The model implies that when new technologies/IT skill possession is at zero level, science teachers’ education will increase by 10.2%.

A unit increase in time spent on electronics devices will propel a growth of 33.2% on science teachers’ education, the introduction of computer technologies and application skills will increase science teachers’ education by 20.6%, Information Technology will boost science teachers’ education by 9.9%, the use of IT will boost a growth of 16.2% while course management system features will lead to a growth of 16.2%. It can be deduced from the standardized coefficients that time spent on electronic devices has the greatest significance direct effect on Science Teachers Education within the context of Open and Distance Learning with 56.3%.

This is followed by skill level using computer technologies and applications with 32.5%, extent of use of IT in courses with 29.7%, course management system features with 27.3% and Information technology with 12.9%.

**Research Hypothesis 2**

Ho: The time spent on electronic devices, skill level using computer technologies and application, Information Technology, extent of use of IT in courses, course management system features have no significant effect on CGPA.

<table>
<thead>
<tr>
<th></th>
<th>CGPA</th>
<th>Time Spent on electronics devices</th>
<th>Skill level using computer technologies and application</th>
<th>Information Technology</th>
<th>Extent of use of IT in courses</th>
<th>Course Management system features</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGPA</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time Spend on electronics devices</td>
<td>-.063</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skill level using computer technologies and application</td>
<td>-.054</td>
<td>.338*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information Technology</td>
<td>.179*</td>
<td>-.146*</td>
<td>-.108</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extent of use of IT in courses</td>
<td>.185*</td>
<td>.114</td>
<td>.259*</td>
<td>.279*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Course Management system features</td>
<td>.199*</td>
<td>.002</td>
<td>.171*</td>
<td>.260*</td>
<td>.462*</td>
<td>1</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level. R=0.262. R²=0.069.*
The Pearson correlation result suggests that there is a significant correlation between CGPA and Information Technology, Extent of use of IT in courses, Course Management system features at R=-0.179, -0.185, -0.199, since p < 0.05 significant level.

This result implied that CGPA has an inverse relationship with each of the variables.

Table: 7
Analysis of Variance (ANOVA)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>9.969</td>
<td>5</td>
<td>1.994</td>
<td>2.355</td>
<td>0.043</td>
</tr>
<tr>
<td>Residual</td>
<td>135.480</td>
<td>160</td>
<td>.847</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>145.448</td>
<td>165</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: CGPA

The ANOVA table shows that the variation in the dependent variable accounted for by the model is adequate at F=2.355, p < 0.05.

Hence the model is acceptable for result utilization and further analysis. The effect of the independent variable on the dependent variable is examined in the regression analysis.

Table: 8
Regression Analysis Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Tolerance VIF</td>
</tr>
<tr>
<td>(Constant)</td>
<td>4.503</td>
<td>.415</td>
<td>10.841</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Time Spend on electronics devices</td>
<td>-.070</td>
<td>.079</td>
<td>-.072</td>
<td>-.882</td>
<td>.379  .866  1.155</td>
</tr>
<tr>
<td>Skill level using computer technologies and application</td>
<td>-.001</td>
<td>.087</td>
<td>-.001</td>
<td>-.015</td>
<td>.988  .810  1.235</td>
</tr>
<tr>
<td>Information Technology</td>
<td>-.167</td>
<td>.103</td>
<td>-.134</td>
<td>-1.618</td>
<td>.108  .849  1.178</td>
</tr>
<tr>
<td>Extent of use of IT in courses</td>
<td>-.072</td>
<td>.080</td>
<td>-.081</td>
<td>-.894</td>
<td>.373  .709  1.410</td>
</tr>
<tr>
<td>Course Management system features</td>
<td>-.122</td>
<td>.085</td>
<td>-.126</td>
<td>-1.437</td>
<td>.153  .758  1.319</td>
</tr>
</tbody>
</table>

The result of the analysis reveals that all the explanatory variables are not significant at 5% level.

Hence, Time Spent on electronics devices, Skill level using computer technologies and application, Information Technology, Extent of use of IT in courses, Course Management system features have no significant effect on CGPA.

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The adequacy of these results is supported by Variance inflation factor (VIF), which shows no significant multi-collinearity since the values are all less than 2

Research Hypothesis 3
Ho: There is no significant difference between the CGPA effect and the IT knowledge of the students.
H1: There is a significant difference between the CGPA effect and the IT knowledge of the students.

Table: 9
Knowledge of Information Technology * CGPA

<table>
<thead>
<tr>
<th>Knowledge of IT</th>
<th>CGPA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.00 - 2.39</td>
<td>2.40 - 3.49</td>
</tr>
<tr>
<td>do not use</td>
<td>count 0</td>
<td>0</td>
</tr>
<tr>
<td>expected</td>
<td>.3</td>
<td>.4</td>
</tr>
<tr>
<td>count</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>expected</td>
<td>12.1</td>
<td>14.5</td>
</tr>
<tr>
<td>very unskilled</td>
<td>count 31</td>
<td>31</td>
</tr>
<tr>
<td>expected</td>
<td>12.1</td>
<td>14.5</td>
</tr>
<tr>
<td>unskilled</td>
<td>count 28.0</td>
<td>33.5</td>
</tr>
<tr>
<td>expected</td>
<td>28.0</td>
<td>33.5</td>
</tr>
<tr>
<td>skilled</td>
<td>count 4</td>
<td>10</td>
</tr>
<tr>
<td>Expected</td>
<td>5.6</td>
<td>6.7</td>
</tr>
<tr>
<td>Total</td>
<td>count 46</td>
<td>55</td>
</tr>
<tr>
<td>Total</td>
<td>Expected 46.0</td>
<td>55.0</td>
</tr>
</tbody>
</table>

Table: 10
Chi-Square Tests

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>16.690^*</td>
<td>9</td>
<td>.044</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>15.744</td>
<td>9</td>
<td>.072</td>
</tr>
<tr>
<td>Linear-by-Linear</td>
<td>1.467</td>
<td>1</td>
<td>.226</td>
</tr>
<tr>
<td>Association</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>156</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Chi-square test result indicates that the cumulative grade point average has significant effect on knowledge of IT with a Chi-square value=16.690 with degree of freedom (9), p < 0.05. Hence, respondents with good CGPA are expected to have better knowledge of IT.

CONCLUSION

The result shows that science teachers trained at Distance Learning Institute, University of Lagos under the new technologies of e-learning, e-teaching have shown significant improvement in content knowledge and perception of pedagogical styles. Also, in terms of numbers, Open and Distance Learning has a positive record that meets the needs of the school system. The Pearson correlation result suggests that there is a significant positive correlation between Science Teachers Education within the context of Distance Learning and Time Spent on electronic devices, skill level using computer technologies and application. Information Technology, extent of use of IT in courses and course management system features at R=0.688, 0.625, 0.165, 0.607, 0.500, since p < 0.05 significant level. This result
implied that increase on each of these variables will further enhance Science Teachers Education.

The result is supported by multiple correlation at $R=0.964$ (96.4%), which shows positive correlation between the explanatory variables and Science Teachers Education within the context of Distance Learning. The variation accounted for in the model is given as $R^2=0.929$ (92.9%), which is the amount of information the independent variables have about the dependent variable. Also, the correlation between CGPA and Information Technology, extent of use of IT in courses, course management system features at $R=-0.179$, $-0.185$, $-0.199$, at $p < 0.05$ showed that CGPA has an inverse relationship with each of the variables. The experience has demonstrated that open and distance learning can be effectively deployed for science teacher education if students were motivated, with good tutorial support, and viable logistics.

**RECOMMENDATIONS**

This paper has established the need to use Open and Distance Learning education to facilitate the training of science in-service teachers through ICT-driven pedagogies and curriculum so as to make it Information Age compliant. This is the only way to ensure that the school system produces individuals who can effectively perform desired activities in the societies. The major implication of the findings of this study is that the University of Lagos is an ICT learning environment for in-service training science teachers. Through ICT training quality teachers can be provided and there could be enough teachers for the science subjects. Also, teachers should be trained in ICT; relevant facilities should be provided and adequate building should be set up in schools. Besides, ICT can only function in an environment where there is regular supply of electricity. This implies that there should be constant supply of electricity to all our schools irrespective of location and remote.

**BIODATA and CONTACT ADDRESSES of the AUTHORS**

Johnson Ademola ADEWARA was born on February 23, 1969 at Ijan-Otun, Kwara State. He is a Senior Lecturer Statistics in Distance Learning Institute (DLI) University of Lagos, Akoka. He attended Kwara State College of Education, Oro for his National Certificate in Education (NCE). He proceeded to the University of Lagos for B. Sc (Ed) in Mathematics and M.Sc. in Statistics. He had a Ph.D. degree in Statistics at the University of Agriculture, Abeokuta Nigeria. He is a member of Nigerian Statistical Association. His area of specialization includes Multivariate Analysis, Statistical Process Control, Total Quality Management, Total Quality Control, Quality Assurance in Distance Education and Data Analysis.

Ademola Johnson ADEWARA
Distance Learning Institute, University of Lagos, NIGERIA
Phone: +2348023875722
Email(s): jadewara@unilag.edu.ng, adewaraja@gmail.com
Olufunke LAWAL of the Department of Arts and Social Sciences Education, Faculty of Education, University of Lagos, Akoka holds a B.A.Ed (English Hons.) 2nd Class Upper Division, Master of Education (M.Ed) (Curriculum Studies) and Ph.D (Literature Education). She has held the following positions: Director, Distance Learning Institute, University of Lagos, 2010 to August 2014; Dean, College of Humanities Tai Solarin University of Education, Ijagun, Ijebu-Ode, Ogun State October 2006 to November 2007 (On Sabbatical); Head Department of Curriculum Studies/Arts and Social Sciences Education, Faculty of Education, University of Lagos. August 2003 to July 2006; Consultant (Education) Unilag Consult, 2003-2006; Member, Adeniran Ogunsanya College of Education Governing Council, Ijanikin, Lagos State 2010-2013; Chairman, University of Lagos Library Committee 2008-2010; Member, University of Lagos Senate Academic Planning Committee 1995-1996; Resource Person, USAID, UNICEF, NTI 2001-2004 and Member and later Consultant, State Universal Basic Education Board, Lagos and Ogun States 1989-1994; 2004-2006. She is also a member of the following Professional Associations: Rock Monteun Language Association (RMLA), U.S.A; World Council of Curriculum and Instruction (WCCI) U.S.A, Reading Association of Nigeria and International Association for the Advancement of Curriculum Studies (IAACS), U.S.A

Olufunke LAWAL
Distance Learning Institute, University of Lagos, NIGERIA
Phone: +2348023109243
Email: olufunkelus@yahoo.com

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MECHANISM OF F2F STUDENT SUPPORT IN OPEN AND DISTANCE LEARNING SYSTEM: Indian Experience

Dr. Anil K. DIMRI
Regional Director
Indira Gandhi National Open University
Regional Centre, Dehradun, INDIA

ABSTRACT

Present paper seeks to analyse the system of face to face programme delivery adopted by Indira Gandhi National Open University (IGNOU) for its distance learners over a period of two and half decades. The paper also analysed that with the growth in student enrolment, new schemes of face to face programme delivery was developed and implemented and some of them have made significant contribution in developing a suitable network. However, the scheme originally launched on the philosophy of institutional networking, resource sharing, collaboration and convergence was highly successful and mainly responsibly for the growth of ODL in India. The schemes of learners support centres launched subsequent only supplemented the existing scheme. Attempt has also been made to critically analyse the pros and cons of each of the scheme offered for ODL learners for face to face interaction and how a particular scheme was more acceptable.

Keywords: Programme delivery, student support services, open and distance learning, learners support centres.

INTRODUCTION

Open and Distance Learning System (ODL) has gone through different phases of evolution since its inception across the world, including developing country like India, where its acceptance got momentum with the establishment of Department of Correspondence Education in Delhi University. World wide changes has also encouraged educational planners and administrators of India to further institutionalized the ODL system in the country, consequently Andhra Pradesh Open University was established in 1982. However the major breakthrough in ODL System in India has been witnessed with emergence of Indira Gandhi National Open University (IGNOU) in 1985. Over a period of time 14 Open Universities (OU) and 154 Directorate of Distance Education were established in India. It has also been noticed that with growth of ODL it was embodied with varying nomenclature including correspondence education, home study, independent study, external studies, continuing education, distance teaching, self-instruction, adult education, technology-based or mediated education, learner-centred education, open learning, open access, flexible learning and distributed learning, virtual learning and internet supported learning (COL, 2013). This change in the monoculture was mainly associated with programme delivery system adopted during the course of time. For instance correspondence education was essentially on the print material supplied to the learners by using postal services. With the passage of time not only audio-video cassettes and CDs were used to supplement the print material but the programme was also delivered through use of information and communication Technology (ICT) including radio broadcast and television. On the other hand the educational philosophy of open learning provided considerable freedom to the learners in terms of medium or media, whether print,
on-line, television or video, place of study, whether at home, at the workplace or on campus, pace of study, whether closely paced or unstructured, support mechanisms, whether tutors on demand, audio conferences or computer-assisted learning, web supported learning and entry and exit points as per the convenient of the learners.

This flexibility of study has social relevance, economic importance and geo-physical acceptance in the developing country like India where study can easily be integrated with the work or other engagement including social responsibility and economic and noneconomic activities. Therefore, ODL mode of learning is highly suitable to the diversified socio-economic, geo-physical and ethno-cultural conditions of India mainly due to its capacity not only to absorb a large segment of college entrants but also provide an opportunity of higher education ranging from in services bureaucrats, technocrats, corporate professionals to enhance their skill while working but also to housewife, road side mechanics and those engaged in farm and non farm activities and informal sectors. It also provides opportunity to passionate learners to join new programme in order to gain knowledge and those already pursuing programmes of conventional system to join add on qualification programmes from basket of variety. Thus, ODL has made significant dent in the field of higher education during the last three decades particularly with the establishment of Indira Gandhi National Open University (Dimri, 2006).

STUDENT SUPPORT SERVICE IN ODL: IGNOU Model

Although IGNOU started its journey with launch of two academic programmes in 1987 enrolling about 4300 learners, with the passage of time, there has been tremendous growth in its student enrolment, resulting in 0.697 million learners enrolled during 2012–13 sessions with 3.02 million on its rolls. In order to provide Student Support Services (SSS), it has envisaged a three tier system of facilitating its learners viz-a-viz national, state and grassroots’ level with its headquarters at New Delhi, Regional Centres in the state capitals and even beyond state capital, depending on the area of the state and enrolment in a particular Regional Centres and geo-physical conditions of the state and the third tier which is actually the interface between the student and the university at the grass root level is the Learners Support Centres of varying nature where learners get opportunity to not only interact with the academic counselors and peers for resolving their academic queries but also get administrative and academic support. These LSCs are established across the jurisdiction of the RC in the institute of higher learning and NGOs. On the other hand the school of studies and operational Divisions, Centres and Institutes has been established in its Hqtrs in New Delhi to develop course materials and provide academic and administrative support. Therefore the delivery of programme through LSCs has paramount importance considering the characteristics of ODL learners.

In the present paper an attempt has been mode to analyse the evolution system of face to face delivery mechanism of ODL with reference to IGNOU as it has major share of ODL enrolment in India. Paper also seeks to analyse how the new system of LSC has developed to augment with the with the technological advancement on the one hand and to fulfill the mandate of the university on the other. Therefore, the present paper is based on the analysis of information available in published unpublished documents of the university and the synthesis of the experience which researcher gained over a period time.

EVOLUTION OF LEARNERS SUPPORT CENTRES (LSCS)

Presently IGNOU is delivering its programme through different types of LSCs, prominent among them are Regular Study Centre (SC), Recognised Study Centres(RSC), Programme Study Centres(PSC), Partner Institute(PI), Special Study Centres(SSC), Tele Learning Centres (TLC), Study Centres under Poverty Index (North Bihar Pattern) (NBP), Special Study Centres for Economically and Educationally Backward Block(SSC EEBB). Besides these LSCs auxiliary scheme of programme delivery were also introduced from time to time and prominent among them were Sub Study Centre, Distance Learning Facilitators(DLF) Empanelled Internet Access Points (EIAP), Work Centres (WC), Skill Development Centres(SDC) and Community Information Centres (CIC). It may be noted that 2789 Learners Support Centres are in active
operation, including 981 PSCs and 628 SCs which constitute to 35.17 and 22.52 percent of the total LSCs respectively.

ROLE OF COORDINATORS AND PROGRAMME INCHARGE OF LSCS

The functioning of study centre depends on the performance of the coordinator who has to perform multifaceted activities as indicated below:

- To coordinate the work of the individual counselors and act as a liaison between the University, Regional Centre and the LSC.
- To be responsible for the maintenance of all records and registers in respect of the activities of the SC either academic or administrative.
- To supervise the work of the non-teaching staff members
- All the communications from the University, Regional Centre and the LSC will be addressed to the Coordinator and is authorized signatory.
- To inform the students of the time and date allotted to them for attending the contact programmes, tutorials etc.
- To keep LSC open on the days fixed by the University and assigned Counsellors specific days on which they have to come.
- To ensure timely evaluation of written assignments and sent feedback to the learners and keep the records of the same.
- To extended library support to the students visiting LSC for contact programmes and guidance
- To ensure that the LSC is properly equipped with the Study material and the necessary audio and video equipment, tapes etc. for imparting teaching to the students and ensure that the audio and video equipment are kept in proper working order.
- To be available at the concerned LSC between the appointed times at least three days in a week, (the days of the week will be as notified by the University). One of which will be Sunday, for answering any doubts of students and for counseling them. In case, the Coordinator is not able to attend to his duties on the notified days or has to be away from work for reasons beyond his control he shall make alternate arrangements to ensure that the work of the LSC is not affected.
- To shall abide by the instruction issued from time to time by the University and shall submit periodical reports on the progress of the courses, the students as may be required.
- To ensure discipline in the LSC consistent with the aims and objectives of the University.
- To perform such other duties as are assigned by the University from time to time for the effective functioning of Study Centre.

REGULAR STUDY CENTRES (SC)

The scheme of regular study centre (SC) is mainly successful in the institute of higher learning such as Government and Government Recognized UG and PG colleges and such other organizations and institutions. A formal proposal is received from the head of host institutions along with the panel of three names for appointment as Coordinator. An MOU is signed between the head of the host institution and Regional Directors. Regional Director or his representative after assessing the feasibility of establishing the Study Centres makes an on-the-spot visit and also meet the candidates recommended for the post of part time Coordinator. Regional Director then submits its evaluation report to IGNOU headquarters for final decision. If IGNOU decides to establish a Study Centre at the Host Institute, Regional Director signs the M.O.U. and returns one copy to the Head of the Host Institute. The Coordinator is appointed simultaneously and takes charge of the Study Centre and makes it operational.
Face-to-Face Program Delivery Mechanism in ODL
Coordinator of SC is responsible for overall academic, financial and administrative functioning of the Study Centre. The Coordinator is appointed on the recommendations of the Head of the Host Institute from among the panel of three names submitted to the University. Besides coordinators SC is also manned support staff drawn normally from the existing staff of the host institute. The number of part time functionaries can vary total enrolment, number of programmes offered at the Study Centre and also taking in to consideration the work load.

As per the requirements of the study centres coordinators and assistant coordinators are assisted and supported by the support staff who are suppose to perform the activities such as assisting the Coordinator in handling students’ queries, pre-admission counseling and on-the-spot admission wherever applicable, receiving and acknowledging the assignment responses from the learners, return the same to the learners after obtaining the comments from the evaluators and maintain the records thereof, to consolidate grades of evaluated assignments and help the Coordinator in transmitting the same to the Regional Centre within due date, to help the Coordinator in maintaining the accounts of the Study Centre, to provide necessary assistance to the Coordinator and Asst. Coordinator as per their instructions in respect of functioning of the Study Centre and to assist the Coordinator in respect of all administrative matters of the Study Centre. The University meet all the expenses to meet the activities of student support services at the SC.

Sub-Study Centre of IGNOU is an extension of the main SC to which it is attached. A Sub-Study Centre is established in a place where a sizable number of students are enrolled in the vicinity but a full fledged SC is not viable. It normally provides counselling and assignments evaluation facilities to the students. A sub- study centre is managed by an Assistant Coordinator who functions under the guidance of the Coordinator of the main centre. All the administrative and financial matters of the Sub- Study Centre are handled by the main centre only. All the matters related to the Sub- Study Centre are routed through the Coordinator of the main centre.

RECOGNISED STUDY CENTRES (RSC)

It is evident to note that after the introduction of Scheme of Regular study centre, the scheme of recognized study centre was also introduced with some structural changes. For instances recognized study centre was also manned with the coordinator, nevertheless the infrastructure and other facilities were to be provided by the host institution. Financial commitment on IGNOU in meeting the recurring expenditure was minimum except meeting the honorarium of the coordinator. However, the payment for conduct of Term End Examination was borne by the University.

The arrangement of counseling was made by the host institutions and expenditure in this regard was also borne by them. These institutions were mainly established in Public Sector. Undertaking that have interest in benefiting public in general and their employee in particular. Similarly there was no restriction on implementation of the programme at this centre depending on the availability of academic counselors.

The concept of a RSC is based on sharing of the financial liability for establishing and operating the centre. Any organization or Institute which is willing and able to share the financial burden and has the necessary infrastructure can be considered for establishing recognized centre. The requirements for infrastructure are same as those for a SC. Basically the arrangement is that the sponsoring organization provides the entire basic infrastructure including furniture and equipment and also meets the recurring expenditures. University taken the responsibility of appointing coordinator from among the panel provided by the host institution and meet all expenses for conduct of examination and evaluation of assignments.
PROGRAMME STUDY CENTRES (PSC)

Development of academic programme is continuous process in the University system including ODL System. In the year 1990 IGNOU launched Diploma in Computers in Office Management (DCO) where requirement of practical exposure was essential. Therefore, the scheme PSC for programme delivery was introduced and subsequently BCA, MCA programmes of School of Computer and Information Sciences (SOCI) were launched and the programmes of other school of studies were also launched through this scheme. A PSC can be housed in an institute/organization, which possesses necessary infrastructure facilities and academic expertise as per the requirement for the conduct of academic support services and is willing to provide those facilities for use of IGNOU students on mutually agreed terms and conditions mainly following the principle of convergence, resource sharing and networking.

The PSC also has a part-time Programme Incharge who is responsible and accountable for all the activities of IGNOU in respect of a given programme. The PSCs have contributed significantly enrolment mainly due to flux of a large populace of learners in computer science programme particularly during 1999-2000. However, the importance of PSC was realized by the university and attempt was made to strengthen these PSC continued to capture the attention policy makers of the university as a result in the year 2012 the norms were further relaxed and programme study centres with enrolment of 30 students were made entitled to additional infrastructure and manpower.

The PSC also has to perform academic as well as administrative activities including organizing counseling and audio-visual sessions, arranging practical sessions, demonstration, field work etc., receiving assignments from the students, evaluating assignment by approved counselors and sending feed back to the students and grade sheets to the RC, maintain records of activities and accounts, providing regular feedback reports to the RC, provide information about IGNOU and its programmes to general public, generating bio-data of academic counselor and getting them approved. The expenditure towards academic and administrative activities is borne be the university.

Work Centres are also established for programme with practical component in the institute/organization having programme specific equipments/labs for conduct of practicals as and when required. These are generally set up only when the facilities available at PSC/SC are not sufficient to cope with the increased number of students. For this the PIC will identify the institutes and send the proposal to the respective RC. A ‘Work Centre’ is to be established in an institute/organization/industry which possesses the necessary infrastructural facilities and academic expertise for a given programme or programmes of the same discipline and is willing to make these available to IGNOU within the framework of the prescribed norms. The prospective institute/organization/industry is identified by the concerned Coordinator/Programme Incharge who forwards a detailed proposal to the RC indicating the details of infrastructural facilities available and also their acceptance of the payment structure. The proposal will be accorded approval from the Regional Centre. A ‘Work Centre’ functions under the administrative control of the SC/PSC to which it is attached. Funds in respect of the Work Centre are released through the SC/PSC and its account will be maintained by them. There may be more than one work centres attached to a SC/PSC and the functions of a work centre will be one or more as determined by them which mainly include conduct of practicals/field sessions and examination, assignment handling, feedback, quality control, information to students, demonstrative access to workshop/apparatus/computers/site equipment/drawing board/technical library. Students are allocated to the Work Centre by the PIC at the PSC or Coordinator of the SC to which the Work Centre is attached. The schedule of practicals/theory counseling at the Work Centre is prepared by the PIC and intimated to the Work Centre.
SPECIAL STUDY CENTRES (SSC)

This scheme of F2F programme delivery system was launched in 1999 with the objective to establish these centres in the institution and organization which are dedicated for the cause of a given disadvantaged group, possessing necessary infrastructure facilities and expertise to serve the given group, and are willing to collaborate with IGNOU for delivery of programmes to the disadvantaged. In addition to these, SSCs are to be located in the area where a particular disadvantaged groups such as rural and remote areas, SC/ST and prisons. For this purpose collaborative arrangements are worked out with the institutions and organizations such as Non-Governmental Organisations/Voluntary Organisations, Panchayats, Cooperatives, Government Departments and Public Institutions and Prison. In order to establish SSC in particular institutions the willingness of the institutions is formally obtained. Some time RC also approach reputed organization/NGO working in the area for expansion of IGNOU reach and once the host institution as well as IGNOU authority at the Regional Centre are mutually agreed to establish a SSC necessary formalities are completed to establish the SSC

The SSC has to perform multifarious activities which included promotion and publicity of programmes among the disadvantaged groups, empanelment of Academic Counselors, organized induction meetings, counseling, practical sessions etc as per the requirement of the programme, organize Audio Video Sessions, receive assignments and get them evaluated from approved academic counselors and provide feedback to learners and send the grade list to SED and its Regional Centre, maintain records of admissions, accounts, stock of furniture and equipment and other activities of the Centre, maintenance of equipment supplied by the University in good working condition, send regular feedback reports to the Regional Centre, provide information about the programmes of IGNOU to the prospective learners, help the University conduct the term-end examinations.

EMPANELLED INTERNET ACCESS POINT (EIAP)

When the Internet become available across many cities in India, the School of Computer and Information Sciences (SOCIS) realizing the importance and potential of Internet decided to make computer science programme available online. Therefore CIC, BCA and MCA programme were also offered through online, the course material already available in print from was converted into HTML and uploaded on website and the same was also provided in CD to the learners. Since majority of the LSCs/PSCs were not having access to the internet facilities therefore select number of institutes were identified as Empanelled Internet Access Points across the country to provide internet connectivity and faculty support to the learners. However, it may be noted that internet speed was not very high during that point of time and students were facing problems in managing their programmes, therefore programmes were later on integrated with regular study centres.

SPECIAL STUDY CENTRES FOR EDUCATIONALLY AND ECONOMICALLY BACKWARD BLOCKS (EEEB)

The Government of India constituted Justice Sachar Committee for preparation of a Report on the Social, Economic and Educational Status of Muslim Community of India, and Justice Ranganath Mishra Commission for identifying criteria for socially and economically backward classes among the religious and linguistic minorities, and to suggest various welfare measures for Minorities. Among other findings of Sachar Committee on Educational Conditions of Muslims, the status of higher education was described as the disparity in Graduation level education attainment rates is widening since 1970’s between Muslims and all other categories in both urban and rural areas and for both genders. Only ‘one out of the 25 Under-Graduate student’ and ‘one out of the 50 Post-Graduate student’ is a Muslim in premier colleges. The share of Muslims in all courses is low, particularly at the PG level and marginal in the science stream. While
some progress has been made over a period of time, disparities exist and the current generation of Muslims is lagging behind in the field of education and the gap between Muslims and other SRCs increases as the level of education increases and the gaps across all levels of education between Muslims and other SRCs is higher in urban areas and for women. Muslim parents are not averse to modern or mainstream education and sending their children to the affordable Government schools. Therefore, the notion that Muslims prefer only Madarsa education is wrong. The changes in educational patterns across SRCs suggest that SCs and STs have reaped advantages of targeted government and private efforts supporting their educational progress. This reflects the importance of affirmative action.

The Sachar Committee on the basis of Census 2001 has identified 100 Muslim-dominated districts where educational opportunities are minimal. The Prime Minister's High Level Committee on Social, Economic and Educational status of Muslim community of India (Sachar Committee) was to consolidate, collate and analysis information and to identify areas of intervention by the Government to address relevant issues relating to the social, economic and educational status of the Muslim community. The Report brings out clearly the educational deprivation experienced by the Muslim community and has made specific recommendations on improving the educational status of the Muslims. Access to education is critical for benefiting from emerging opportunities that are accompanied by economic growth. From lower levels of enrolment to a sharp decline in participation in higher levels of education, the situation of Indian Muslims is indeed very depressing as compared to most other Socio-Religious Communities (SRC’s) and the problem is more acute for girls/women. Majority of Muslim girls and boys fail in their matriculation examinations or drop out before that. There is a high "deficit" as far as Muslim population in the higher education. In order to make serious efforts to improve educational conditions of the minorities and to integrating the minorities with the mainstream society and their overall growth and development as education is the key to all socio-economic progress and change, Indira Gandhi National Open University in the 11th Plan (2007-2012) has decided to provide educational opportunities to the deprived regions and sections of the society identified by the Sachar Committee by establishing at least one study centre in each Block of the 100 districts.

The study centres will offer vocational programmes in addition to the BPP, BA, B.Com programmes of IGNOU, on the basis of local requirement of the Block, which after completion may help the learners in income generation. Provision of education to Muslim girls using modern communication technologies by linking up with other open universities and Muslim educational institutions for girls will be explored. In order to popularize the programmes and to encourage the enrolment of the minorities, the below mentioned elements of relaxation will be made:

- There will be no restrictions as regards the number of students at Sub-Study Centres for activation of a Sub-Study Centre.
- There will be no restrictions regarding number of counseling sessions and
- Depending on the situation of the host institution, suitable infrastructural augmentation will be made.

Apart from BPP, BA and B.Com Programmes, the Study Centres was activated for programmes such as Certificate in Computer Literacy, Computing, Food & Nutrition, Nutrition and Child Care, Teaching of English, Teaching of Primary School Mathematics, Maternal & Child Health, Digital Literacy Module of Sakshat, Awareness programme in Dairy Farming, Added Product for Fruit & Vegetable, Mushroom Cultivation, Integrated Parental Awareness, Rural Youth Training Programme, Floriculture, Bee keeping, Water Cycle Management, Shoe Upper Cutting, Shoe Upper Stitching and Shoe Lasting & Finishing.
The above programmes have been identified for the first phase and more programmes would be launched depending on the progress of the pilot run. All these programmes are skill-based or vocational in nature whereby learners could get jobs/employment. Where EEBBs do not even have secondary schools, establishment of Tele-learning, EduSat Centre, Auxiliary Work Centres and Mobile Work Centres will be explored. While identifying academic programmes, to explore the possibility of activating the courses already offered by the other Open Universities or NIOs in the regional languages/Urdu. The University will bear the cost of establishment and recurring expenditure of the study centres. The institutions that would be the study centres may need to provide us rent free accommodation for establishment of the study centres and support in identifying faculty/teachers for delivering the academic/vocational programmes to the students.

PARTNER INSTITUTION (PI)

The scheme of Partner Intuitions was introduced in the year 1996 where MBA and computer programme was launched through select Partner institution. Partner institutions were given greater autonomy including independent handling of student admission process. There was provision of Coordinator at these institutions however, the coordinator was not paid honorarium by the university. For support services fee was share between the partner institution and the university. The study material to the learners of these institutions was directly sent by the Material Production and Distribution Division. At the later stage this scheme was also extended to other programmes. IGNOU signed MOU with APTECH India in 1999 which has enrolled a large number of students of Computer Science Programme. As per MOU the institute was authorized to enroll students at Delhi, however, it has taken students from across the country violating the spirit of the MOU therefore, University discontinued the agreement by terminating the MOU with APTECH. While terminating the MOU the learners were given opportunity to opt for the IGNOU learner support centre within their reach.

TELE LEARNING CENTRES (TLC)

During 2000-2001 there was tremendous growth in student enrolment in computer science programme.IGNOU launched Advanced Diploma in Information Technology (ADIT), and Bachelor of Technology (BIT) in 1999 in collaboration with Edecxcel and the Government of India, Ministry of Information and Broadcast under Virtual Campus Initiatives (VLI). In order to provide support services to the Learners University decided to established Regional Computer Labs (RCL) initially at six Regional Centres at these RLCs Tele Learning Centres (TLC) were established. The students of computer science programmes such as Certificate in Computing (CIC), Bachelor of Computer Application (BCA) and Master of Computer Application (MCA), BIT, ADIT were attached with the TLC and later on some more programmes were activated. These TLC were under the direct monitoring and supervision RC. The purpose of establishing TLC at RCL was to curtail huge expenditure incurred on hiring computer labs, which was otherwise being paid to private institutions as computer hiring charges. The experiment was highly successful and the same is still operational at these RCs.

STUDY CENTRE UNDER NORTH BIHAR PROJECT(POVERTY INDEX CENTRE)

Experimentation with the launch of new type of LSC continued considering the geo-physical condition of the country, therefore, a scheme of Study Centre under North Bihar Pattern were introduced in the year 2003. These centres were mainly established under Darbhanga Sub Region Centre to cater the Open and Distance learning needs of people of North Bihar. Initially Bachelor Degree Programme with limited number of courses and PGDRD programme was activated at this centres. These centres were managed by the coordinator. The scheme was very successful as a result this scheme was also introduced in other part of the country.
Later on these Centres were upgraded as Regular Study Centres taking the cut off enrolment figure of a particular centre into consideration.

COMMUNITY INFORMATION CENTRES (CIC)

Computer Literacy Programme (CLP), was initially offered by IGNOU in collaboration with the Ministry of Information and Technology, Govt. of India, and respective state Governments of North Eastern States and Sikkim, is an awareness programme of one month duration. The programme was developed to help the youth of NE for acquiring basic information and skills related to MS-Office, Internet, Web technologies and Trouble shooting. The learners were attached to IGNOU Study Centres/Tele-learning centres or the Community Information Centres (CIC) of the Ministry of Information Technology. A large number of CIC were activated for this purpose in the NE States. Later on the programme was also offered by other regions.

ANCILLARY SCHEME OF PROGRAMME DELIVERY

WORK CENTRES (WC): In addition to above centres, there was a provision of work centres mainly for the programmes where facilities for conduct of practical component of the programme were not available at the LSCs. For instance, for the student of computer science programmes such as CIC, BCA and MCA the work centres were established in the institute public or private who were having hardware and software facilities to run the programme. However, this scheme was restricted due to operational problem and exploitation of learners by some of private institutes. The scheme of work place/centres is still available in other programmes including B Ed programme as students have to perform school based activities in their school or the school identified by them which are there work centre.

Skill Development Centres (SDC)
The programme of School of Health Science such as PGDMCH and B Sc Nursing required extended practical exposure, therefore the students are attached with SDC and these centres were established at the Primary Health Centres etc. The activities of these SDC were monitored in order to ensure required practical exposure to them.

Scheme of Distance Learning Facilitators (DLF)
With the Growth of ODL in general and IGNOU in particular the evaluation of programme delivery mechanism continued. In the year 1997 a scheme of distance learning facilitator (DLF) was introduced which was later strengthened in 1999. The main responsibility of DLF was to enroll students and also arrange counseling session for them. The DLF was also assigned the responsibility of getting the assignment of students evaluated from the academic counselors.

Though the scheme was useful particularly to extend the support in the rural areas but it could not capture movement due to number of problems. In the absence of strong monitoring mechanism the lack of interest by the scheme was gradually diaped. This scheme has been re-launched in the year 2011 with some modifications but yet to make impression.

Community Colleges
An alternative system of delivery mechanism for F2F teaching was also developed and launched by IGNOU in 2009 with establishment of Community colleges across the country with the aims to empower individuals through appropriate skill development leading to gainful employment in collaboration with the local industry and community. They offer the advantage tailoring programmes to local needs and state-based requirements by using approaches that will be most acceptable to workers in the given community. The community colleges generally have a year curriculum that either leads to an Associate
Degree for transfer to an undergraduate college or to the students direct entry into any occupation or trade. Institutions which are run of the community, by the community, and for the community offering opportunities to all sections of society particularly the marginalized and disadvantaged is the rationale for the establishment of community college. These institutions were established in an educational agency/registered society/trust or corporate body rooted in community-based activities having minimum period of five years of proven service and be located in the community it seeks to serve. Community College Board which was the executive body of the community college was constituted to look after the academic matters of the College. For smooth functioning of community colleges and to provide direction academic and examination matters two more committees were also established. However, due operational difficulty and several objections on the modalities of the Community College Scheme it was discontinued in 2013.

NEW INITIATIVES

Distance Learning Facilitator

IGNOU re-introduced the scheme of DLFs with the objective to extend its reach in the area where no LSC is established with an objective to enhance student enrollment at Regular Study Centre where student enrolment is very low. Therefore the main objectives was to organize promotional meetings, door-to-door contacts and discussions with district level officials, Local Self Govt. functionaries, rural/tribal heads, NGOs etc. for better enrolment in the programmes, pre-admission guidance and counseling to the prospective learners and dissemination of important deadlines and information to augment the learners. The DLF is also expected to maintain student records, encourage students to make proper use of facilities at LSCs.

Students generated by DLFs are allotted to the nearby active Study Centres only and if no Regular Study Centre is existing within a radius of 50kms the DLF, may organize counseling sessions on week-ends at suitable locations for the socially and economically disadvantaged groups of learners by hiring academic counselors from the nearby study centres. The performance of the DLF has to be regularly monitored, therefore a DL is expected to send monthly report. In the new scheme of DLF greater emphasis on monitoring has been given which includes regular for interaction with DLF, surprise visits and performance evaluation of DLF.

MOBILE STUDY CENTRES (MSC)

IGNOU also launch a scheme of MSC on pilot mainly to cater higher education needs of socio economically disadvantaged area with low population density, poor transport network, low per capita income and high vulnerability of community of the country. The MNC operates from the main nodal Regular Study Centre from where academic counselors are willing to camp in the villages and the coordinator of the SC has very good rapport with the participating agencies including college administration from where the academic counselors are drawn and district administration for providing rent free accommodation in the village panchayats building, government schools and any other government building. The scheme has been recently launched and its progress is yet to be seen.

STUDY CENTRES FOR WOMEN IN URBAN AREAS

In conformity with the National Policy on promoting education of women, IGNOU decided to be established study centres for women in the urban areas. Although IGNOU already has scheme of special study centre for women, however, these centres are established to provide an environment of safety, security and participation to students, parents and functionaries and these centres with the objectives for promoting programme in Gender
and Development studies, Continuing Education and Special Education. Since this scheme is launched recently, the progresses of these centres are yet to be assessed.

It is evident to note that the University made several attempts to make paradigm shift in F2F programme delivery mechanism with the growth in enrolment, however, desired result could not be achieved. Only the scheme of PSC was successful as it was replication of SC with some modification in norms for operation of scheme. When here was advert of internet in the country some of the programmes of SOCIS was provided academic support through EIAP. In order to meet is social mandate scheme of SSC was also launched to cater the educational needs of socio- economically backward disadvantaged groups by establishing SSC for rural, remote, socially disadvantaged group, women, minority and jail inmates.

IGNOU made continuous efforts to extend its policy of reaching the unreached, therefore, scheme of DLF was launched to make dent at the cluster level. While realizing the need of quality higher education in the inaccessible areas special efforts were made by establishing Poverty Index Centre under NBP. To implement the recommendation of Sachar Committee SSC for EEBB were established for enhancing enrolment of Minorities particular Muslim. Efforts in spreading IT awareness was accomplished by developing CLP programme and launching the same through CIC. The process of evolution continued with the initiation of mobile SC, SC for urban women and restoration of the DLF scheme. Therefore all these efforts were to strengthen the SSS for the learners while having F2F interaction.

CONCLUDING REMARKS

During last 3 decades, since the inception of IGNOU in the field of ODL, a number of scheme has been launched to provide academic support to the learners at LSCs. It has also been experienced that some of schemes launched by IGNOU was not successful at the grass root level mainly due to lack of proper infrastructure to manage the scheme and some time inadequate infrastructure. Over enthusiasm while launching the scheme such as EIAP during early advent of internet could not make the scheme successful, however this scheme can be very useful in the present day scenario. The Scheme of DLF lacked proper monitoring resulting in disinterest in implementing the same by the RCs, however the same has been re launched but due to past experience the RCs are reluctant to initiate the process. It can be concluded that the efforts and innovation continued over a period of time for strengthened the programme delivery mechanism in F2F mode and efforts are likely to be constituted considering the overwhelming progress made by the University in attracting the learners.

BIODATA and CONTACT ADDRESSES of the AUTHOR

Anil K. DIMRI, holds a Ph.D. in Economics is currently working as Regional Director in Indira Gandhi National Open University (IGNOU) at its Regional Centre Dehradun. He Joined IGNOU as Assistant Regional Director at its Regional Centre-Guwahati. Prior joining IGNOU, he was Research Officer at the Centre for Micro Planning and Regional studies, Lal Bahadur Shastri National Academy of Administration Mussorie, India. He has also served as Joint Chief in the Institute of Applied Manpower Research (Planning Commission) GOI, New Delhi. He has published more than two dozen papers in national and international Journals and also submitted several research reports to different Ministries and Institutions. He was actively involved in collection of data for preparation of Human Development Index for the State of Haryana, Madhya Pradesh, Andra Pradesh and Chhatisgarh. He is also involved in imparting training in the field of Decentralized Planning, School Administration Participatory Learning and Action to the National and State level
participants. His area of interest are Decentralized Planning and PRI Institutions, Participatory Rural Appraisal and Distance Education. He is actively involved in guiding distance learners in face to face counselling and interactive radio counselings. He also authored three books in the field of Horticulture Planning, Decentralized Development and Distance Education. He has also supervised four Ph.D. in Applied Economics. His current responsibilities education administration, student support services, supervision and maintenance of Learner Support Centres (LSCs) and academic, administrative and financial management of Regional Centre and LSCs.

Anil K. DIMRI  
Assistant Regional Director,  
Indira Gandhi National Open University,  
Regional Centre B-1/33 Sector H Aliganj, Lucknow India  
Phone-91-0522-2364893, email: dimrianil2002@yahoo.co.in

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THE USE OF OPEN EDUCATIONAL RESOURCES IN ONLINE LEARNING: A Study of Students’ Perception

Meirani HARSASI
Universitas Terbuka, INDONESIA

ABSTRACT

Universitas Terbuka (UT) is Indonesia’s higher education institution which implements distance education system. The term distance implies that learning is not performed face-to-face but there is geographically separation between students and teacher. Therefore, UT must provide many kinds of learning modes and learning support. To facilitate students in their learning process, UT provides an e-learning system named online tutorial. This tutorial is provided for all courses which are designed in 8 sessions of virtual class. Students can learn, discuss, and ask to the teacher via this mode of learning. As the development of methods in e-learning, the use of open educational resources (OER) has increasing these days. Learning materials can be taken easily and freely from internet. UT also utilize OER in it’s learning process, especially in e-learning. The aim of this study was to collect data from students about their acceptance of integrating OER into e-learning. The use of OER is perceived by students as something interesting because it’s new for them and can help them to have a better understanding about a topic. The results also showed that video has found as the most interesting OER for students. Other results, limitation and suggestion from students about integrating OER into e-learning also will be discussed in this paper.

Keywords: distance education, e-learning, OER.

INTRODUCTION

Universitas Terbuka (UT) is the only higher education institution in Indonesia that implements a distance and open learning system. The term distance implies that learning is not performed face-to-face, but makes use of media, whether printed media or non-printed (audio/video, computer/Internet, radio and television broadcasts). Open means there is no limitation as to age, year of graduation, period of study, registration time, and frequency of examinations. The only limitation applied is that UT students must have graduated from High School.

The essence of distance learning is the separation between students and teachers which mean students have to be able to study independently. To support the system, UT provides a variety of learning materials, basically in the form of printed and non-printed materials. During the learning process in one semester, students have to read the printed materials and utilize learning support based on multimedia and internet. Learning support materials provided for students including computer assisted instruction (CAI), video, audio, TV and radio broadcast. UT also provides learning support services based on internet, namely online tutorial, self exercise, and online-based enrichment materials. Online tutorial is a kind of e-learning implemented in UT to teach students about a certain subject. Online tutorial as one of learning support service for students as virtual class that is designed in 8 weeks. Students also have to do 3 tasks during the semester. By participating online tutorial, students can have opportunity to interact with the tutor, ask about the topic, and also know and discuss each other, if they can’t attend a face to face class.
Open Educational Resources (OER) is widely used these days, including in education. OER have gained increased attention for their potential and promise to obviate demographic, economic, and geographic educational boundaries and to promote life-long learning and personalized learning. The rapid growth of OER provides new opportunities for teaching and learning, at the same time, they challenge established views about teaching and learning practices in higher education (Yuan, et al., 2008). UT also utilizes OER in learning process, including in online tutorial. Online tutorial is designed in 8 weeks. Every week, tutor provides learning material and discussion forum. In week 3, 5, and 7, students have to do task given by the tutor. To enrich the material, tutor can adopt material that is freely taken from internet, named OER. The utilization of OER is expected to be useful for students since it can increase student’s insight beyond what they can get from printed materials.

This study was conducted in Universitas Terbuka. The aim of this study are (1) to analyze the use of internet by students, (2) to analyze student’s activity on e-learning, (3) to analyze utilization of OER in e-learning based on student’s perception. The results of the study are expected to provide information to determine the policy relating to utilization of OER in learning process.

OPEN EDUCATIONAL RESOURCES (OER)

Open Educational Resources are defined as "technology-enabled, open provision of educational resources for consultation, use and adaptation by a community of users for non-commercial purposes". They are typically made freely available over the Web or the Internet. Their principal use is by teachers and educational institutions support course development, but they can also be used directly by students. Open Educational Resources include learning objects such as lecture material, references and readings, simulations, experiments and demonstrations, as well as syllabi, curricula and teachers' guides (UNESCO 2002).

Open Educational Resources (OER) represents the combined international efforts to help equalize access to knowledge and educational opportunities throughout the world (Bissell, 2009). Another definition of OER was given by Bissel: OER is teaching, learning, and research resources that are in the public domain or have been released under an intellectual-property license that permits their free use or customization by others. Bissell (2009) also stated that OER is digitized materials offered freely and openly for educators, students, and self-learners to use and reuse for teaching, learning and research. They include learning content, software tools to develop, use and distribute content, and implementation resources (such as the open licenses themselves). There are also several benefits of OER. Initially, they can extend access of learning for everyone, including nontraditional groups of students and those from disadvantaged backgrounds, resulting in the widening of participation in higher education. OER can be an efficient way of promoting lifelong learning, bridging the differences between informal and formal learning.

Additionally, they can be an asset for expanding education in developing countries. In short, they offer a dramatically new approach to the sharing of knowledge which can lead to economic success of individuals, communities, companies, and, ultimately, entire countries (McDowell, 2010).

One of the barriers to significant expansion of OER is the possible loss of intelligence property rights and copyrights. To ease the concern of maintaining copyrights to the material posted on the web, institutions and individuals have turned to Creative Commons and the Open Courseware Consortium (McDowell, 2010). OER can be a valuable resource to students and instructors for many reasons. From the student’s perspective, OER had the following advantages:
- free materials;
- continuous access to resources;
- the ability to pursue a topic thoroughly;
- the ability to learn for personal knowledge or enjoyment; and
- easy access to materials (Arendt and Shelton, 2009).

According to D’Antoni (2009), there are also several barriers in using OER:

- technical, such as lack of broadband access;
- economic, such as inadequate resources to invest in the necessary software and hardware;
- social, such as a lack of the skills needed to use technology;
- 4) policy-oriented, such as the lack of academic recognition of the development of OER by teaching staff; and
- legal, such as the time and expense associated with gaining permission to use third party owned copyrighted materials or its removal from material.

Many higher education institutions around the world have been using the Internet and other digital technologies to develop and distribute teaching and learning for decades. As with any other technology-related initiatives in education, OER is driven by technical, economic, social, policy and legal factors. Some of these factors provide either a favorable environment or a particular handle for bringing about changes and others may hinder a broader uptake of OER initiatives. Recently, OER have gained increased attention for their potential and promise to obviate demographic, economic, and geographic educational boundaries and to promote life-long learning and personalized learning. The rapid growth of OER provides new opportunities for teaching and learning; at the same time, they challenge established views about teaching and learning practices in higher education. At a minimum, OER possess at least three elements, (1) learning content, (2) the tools required to support the development and sharing of learning content, and (3) implementation resources such as intellectual property licenses that support the sharing and re-use of learning content.

E-LEARNING

Distance education has become an area of opportunity and concern for many colleges and universities. It refers to technology-based instructions in which the students are at a location physically separated from their instructors during the entire course of study (Ormrod, 2008). Initially, distance education was created for the students who were unable to attend school. Prior to all technological advancements, distance education, in the form of "pure" correspondence study, was created to give those students a chance to study and could not attend ordinary schools or universities due to social, medical, financial, or geographical reasons. Although it offers tremendous opportunities to expand services to the students, it also poses challenges because students are often off campus and are connected to teachers, resources, and peer learners through technologies and teaching techniques. In a learning environment where students and instructors are separated from one another by physical distance, and in which written communication is the key to all interactions, feedback becomes an important issue in helping the students maintain interest and be successful with the course contents (Steinweg, et al., 2006).

Higher education systems all over the world are challenged nowadays by the new information and communication technologies (ICT). These technologies have had a huge impact on the world economy, corporate management and globalization trends, and they bear a tremendous potential to reshape the nature of study environments everywhere, of both conventional and distance teaching institutions (Guri-Rosenblit, 2005). E-learning has been used very effectively in university teaching for enhancing the traditional forms of teaching and administration.
Students on many courses in many universities now find they have web access to the lecture notes and selected digital resources in support of their study, they have personalized web environments in which they can join discussion forums with their class or group, and this new kind of access gives them much greater flexibility of study.

E-learning refers to the use of Internet technologies to deliver a broad array of solutions that enhance knowledge and performance (Rosenberg, 2001). E-learning can be used in almost every level of education, especially higher education. It can be an effective way for students to explore knowledge more than what they can get from a class room. E-learning is also called Web-based learning, online learning, distributed learning, computer-assisted instruction, or Internet-based learning. Historically, there have been two common e-learning modes: distance learning and computer assisted instruction. Distance learning uses information technologies to deliver instruction or materials to learners who are at remote locations from a central site. Computer assisted instruction (also called computer-based learning and computer based training) uses computers to aid in the delivery of stand-alone multimedia packages for learning and teaching. These two modes are subsumed under e-learning as the Internet becomes the integrating technology (Ruiz, et al., 2006).

RESEARCH METHOD

This research is a descriptive qualitative research with the main aim was to get information about the use of internet and OER in e-learning. Population of the research was all students in Magister Management Program of UT who take course in the semester and take certain course that was chosen as a course sample. Purposive sampling was used as the sampling method, which means we only chose sample/students who eligible for this research, e.g. they have practiced e-learning more than one semester. Data to be analyzed is gathered from students by sending questionnaire via email.

A questionnaire was being divided into 2 sections, first is questionnaire about the use of internet and e-learning, and second is the use of OER in e-learning. All samples were sent the questionnaire, and they were given maximum 1 month to filled out the questionnaire. Only completed questionnaire will be used for analysis.

To analyze the data, they were two steps in this research. First was to calculate the percentage of student’s answers, and the second was to conduct qualitative analysis of the student’s answers. The results of these steps would be used as a tool to give description of student’s answer. After getting description of student’s perception, an analysis could be done to show the conditions in Universitas Terbuka and the results are expected to be input for decision making to enhance learning process by optimizing the use of OER.

RESULTS AND DISCUSSION

Data collection was conducted for 1 month in May 2013. The population of this research is all students in Magister Management Program of UT. A purposive sampling technique was implemented in this research with criteria of students who take Operations Management course. Operations Management is a course that explains about how a product can be produced at a factory, from beginning until the end, and also all techniques implemented in producing a product. The e-learning of this course is completed with open educational resources (OER) in the form of video, text/article, power point, and picture. All these OER were taken freely from internet as free sources. The questionnaires were distributed to students who take this course via e-mail.

As many as 186 questionnaires were sent to students, but only 39 questionnaires were sent back (20, 96%). Of those 39 questionnaires, the results are as follows.
Section: 1
The use of internet and e-learning

Question no. 1. How many times do you access internet or e-learning

![Pie chart showing internet access frequency]

- Everyday: 44%
- 2-3 times in a week: 46%
- Once a week: 10%

Question no. 2. Where do you access internet or e-learning

![Pie chart showing internet access location]

- Home: 57%
- Workplace: 36%
- Warnet*: 5%
- Others: 2%

*Warnet is a place that belongs to private that is equipped with computer and internet access.

People who don’t have a personal connection to internet can come to this place and pay to rent the computer and internet.

Question no. 3. How much money do you spend for accessing internet

![Pie chart showing internet expense]

- Rp50,000: 16%
- Rp100,000 - 150,000: 20%
- >Rp100,000: 62%
- None: 8%

*USD 1 = Rp11.900
Question no. 4. How is the internet speed

![Pie chart showing internet speed](image1)

Question no. 5. How is the internet speed when you’re downloading OER

![Pie chart showing internet speed when downloading OER](image2)

Section: 2
The use of OER
Question no. 1. OER applied in my e-learning is interesting

![Pie chart showing OER interest](image3)
Question no. 2. Video in OER is clear

Question no. 3. Text in OER is clear

Question no. 4. Picture in OER is clear
Question no. 5. Color in OER is interesting

Color in OER is interesting.

Question no. 6. The use of text and font in OER is appropriate

The use of text and font in OER is appropriate.

Question no. 7. Audio in OER is clear

Audio in OER is clear.
Question no. 8. Pronunciation by the speaker in OER is clear

Pronunciation by the speaker in OER is clear.

No 31%
Yes 69%

Question no. 9. OER in English is very easy to understand

OER in English is very easy to understand.

No 64%
Yes 36%

Question no. 10. OER is useful for me to understand the topic

OER is useful for me to understand the topic.

No 5%
Yes 95%
Question no. 11. I’ve got difficulty while downloading the OER

From the students’ answers there are some important points that can be used as a basis for decision making policy related to the field of e-learning. For the first question, how many times students access internet or e-learning, most of students answered 2-3 times a week (46%).

This number showed that students learn the e-learning every two days average. This indicates a good condition for the students to learn independently. This condition can be retained and improved by providing e-learning with some interesting materials and also increase students’ participation in discussion.

The next question, it’s found that home was the preferred place for students to access internet (57%).

This indicates that students learn during their spare time at home. This means that students have enough time to study, so tutor can enrich the e-learning with variety media, for example video as a means for students to learn the material. Because students have enough time to study, they also have enough time to watch the video. Other important results are OER is interesting and the quality of OER (video, text, picture, color, and audio) is good.

Most of students also answered that OER is useful for them to understand the topic. Therefore, tutor should enrich the e-learning materials with OER because the OER can help students to learn and understand the topic.

Besides all of the advantages of OER in e-learning, there was also a weakness of OER in e-learning. For the OER in the form of video, students found it’s very difficult for them to understand video in English.

This difficulty was also experienced by the tutor, because it’s very difficult too to find OER in the form of video in Indonesian. To overcome this problem, tutor should provide the translation of the video, so students can understand what the video is about.

In addition to quantitative analysis, qualitative analysis was also conducted to find out more about the utilization of OER for students. There were 3 questions of this qualitative analysis to find out:

- why video was selected as the most preferred OER by students;
- the advantage of OER; and
- the disadvantage of OER
Question no. 1. Why video was selected as the most preferred OER by students
Some students answered that by watching the video, they can see the examples of a topic they are studying in a real case. Operations management is a course that is mostly talks about techniques in producing a product.

By providing students with video of how to produce a product, they could understand the topic easily.

Some students also answered that by watching video while learning a topic, it is more attractive, avoid boredom, rather than only reading text.

Question no. 2. The advantage of OER
Some students answered that the advantage of OER is can enhance their abilities in using internet, especially the facilities in online tutorials (e-learning).

The students also answered that one of the advantage of OER was to help them to learn faster than reading a textbook.

Question no. 3. The disadvantage of OER
Some students answered that one of the disadvantages of OER is if the OER is a video, sometimes the quality of video and audio is not good. They also answered that they have difficulty when watching video in English.

CONCLUSIONS AND SUGGESTIONS

The aim of this study was to gathered student’s perceptions of utilization OER in e-learning. From the discussions, there were some important points related to utilization of OER in e-learning. Video is the type of e-learning materials that is the most preferred by students.

According to UT’s students, by watching video, they can see the examples of a topic they are studying in a real case. Some students also answered that by watching video while learning a topic, it is more attractive, avoid boredom, rather than only reading text.

Another result was the fact that most of students preferred to study by e-learning from home.

For open and distance education students, home probably is the nicest place to learn, especially while they learn via e-learning.

From these results, we can draw the conclusion that for open and distance education students, of course, there are some differences from convenience students. Students of distance education system must be able to learn independently, that’s why they need a lot of learning supports and also places where they feel pleasant to study.

To support students on learning, the suggestions below might be needed. Video has founded as the most preferred material by students.

As the institutions of open and distance learning, UT must provide this kind of material to enhance student’s desire to study independently.

The number of video materials should be adjusted by the number of subjects or course so can make it easier for students to learn. Home was founded as the most pleasant palace for students to study independently.

To support that, distance education institution should provide a range of learning support services, probably will be better if most of them are videos.
Examples of the use of OER in e-learning at Universitas Terbuka as follows.
Meirani HARSASI works at Department of Management, Universitas Terbuka, Indonesia as a lecturer. She got her Master Degree on Management from Universitas Gadjah Mada, Indonesia at 2008. She teaches operations management, operations research, and supply chain management. Her research interests involve e-learning, distance education, and management as part of her job as a lecturer in a distance education institution.

Meirani HARSASI
Universitas Terbuka, Jl. Cabe Raya, Ciputat, Tangerang Selatan 15418, INDONESIA
Phone: 62818417713
Fax: (621) 7434491
Email: rani@ut.ac.id

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EFFECTIVENESS OF THE FORUM METHOD FOR THE SELF DEVELOPMENT COURSE IN UKM AND ITS LINK WITH STUDENT INTEREST

Wan Zulkifli WAN HASSAN  
Pusat Citra Universiti, Universiti Kebangsaan Malaysia, Selangor, MALAYSIA

Ezad Azraai JAMSARI  
Department of Arabic Studies and Islamic Civilization, Faculty of Islamic Studies, Universiti Kebangsaan Malaysia, Selangor, MALAYSIA

Mohamad TAHA  
Pusat Citra Universiti, Universiti Kebangsaan Malaysia, Selangor, MALAYSIA

Aminudin BASIR @ AHMAD  
Pusat Citra Universiti, Universiti Kebangsaan Malaysia, Selangor, MALAYSIA

Jamsari ALIAS  
Pusat Citra Universiti, Universiti Kebangsaan Malaysia, Selangor, MALAYSIA

Nazri MUSLIM  
Pusat Citra Universiti, Universiti Kebangsaan Malaysia, Selangor, MALAYSIA

ABSTRACT

Student inability to explain concepts learnt in lessons using their own words academically and intellectually and their lack of interest in learning the subject are a cause of their incompetence in the development of their personality. This presents a challenge to lecturers that they should not rely entirely on conventional lectures and tutorials. Instead, there is a need to employ a variety of teaching methods to stimulate student minds and encourage them to pursue knowledge.

As an effort to diversify learning and teaching methods, a study was conducted to improve weaknesses of teaching and learning methods by organizing to motivate students. This was done to help students realize that concepts learnt in the course are relevant to their daily life and to encourage them to seek knowledge of self development which can be applied outside the class. The fora were followed with an action research. This action research was aimed at analyzing the effectiveness of the forum as an alternative method of teaching and learning of the Self Development Course.

A sample of 73 students of various academic faculties 2012/2013 were involved in the forum competition. The sample was divided into two groups: panelists group and audience group. Panelists wrote two reports on their experience from the beginning stage of preparing forum materials until the final stage of conducting the forum itself. Listeners
groups were assessed as to their interest and observation to the forum content and its discussion while it was being conducted. The effectiveness of this strategy is based on analysis of student reports on the conducted forum and debates in it. Results show that forum received a positive response among the students.

The forum approach increased student skills to relate to current issues in explaining facts they have learnt, encouraged cooperation among them to solve problems and increased interaction skill as well as built self-confidence. Therefore they could sharpen their soft skills and were able to solve problems and human-related issues.

**Keywords:** Effectiveness, forum, self development, UKM, interest.

**INTRODUCTION**

A lecturer’s teaching is said to be effective when students under his or her guidance show an interest in and have learnt something from what has been presented by the lecturer. Learning, meanwhile, is said to occur when there is a change in the learner’s attitude or behavior after going through the lessons.

With regards to the ZT1062 Self Development Course (SDC) offered to students of Universiti Kebangsaan Malaysia (UKM) or The National University of Malaysia. The objective of the course is said to be achieved when the student is able to not only remember the contents of the subject delivered but also academically and intellectually explain concepts which have been learnt using their own words. With this they can polish their soft skills and be capable of resolving human-related issues and problems.

Moreover, this course trains students to apply four soft skills namely:

- effective communication in various situations,
- critical thinking, problem solving and scientific approach,
- leadership and teamwork, and
- information management skill and lifelong learning.

Application of the four skills can be implemented using the method of forum which is conducted in groups. Students are required to practically apply the four soft skills to strengthen and fortify soft skill elements within themselves. The practical aspect of this is necessary to produce holistic students who can contribute to the society and organizations (Center of General Studies, 2011).

Nevertheless, lecturer’s effort in nurturing student’s enthusiasm towards learning of the Self Development Course (SDC) occasionally meets an ending road because of student’s misconception of the subject. This is due to the fact that it is an elective course of the faculty and requires a high level of soft skill to apply in the real world. This sometimes can lower students’ interest in the course which has yet to reach a level desired by the university.

This issue may be closely related to the teaching delivery method used. This presents to lecturers a challenge of not delivering teaching materials through the conventional use of lectures and discussions during tutorials only without active participation of the students. A question therefore arises whether or not the method of forum increases student interest in learning SDC. Does it help the students in learning the course?

When it comes to learning situation, Azizeh et al. (2010) suggests that teachers, the curriculum, the syllabus, textbooks and school activities must continuously be improved so that students can maintain a positive attitude and the process of teaching and learning remain effective. In the context of Malaysia, many researches have been done related to the improvement of students teaching and learning including the implementation of
forum method and the incorporation of learning styles in educational technology (Pai, 2012; Cooper, 1982; Mohd Nawi et al., 2013; Mohd Nawi et al., 2012). This is in addition to the improvements in learning conditions and facilities such as the aids from the government to Islamic religious schools, whose students are also encouraged to have those methods in their learning activity (Umar et al., 2012a; Umar et al., 2012b; Umar et al., 2012c; Umar et al., 2012d).

As an intervention to this problem, this research proposes a student-centered teaching approach which is necessary to encourage student participation. This approach can motivate students to be keen to learn, encourage them to pursue knowledge and challenge them to keep developing their skills. A teaching method introduced by the lecturer was the method of forum. Through this approach, it is hoped that students realize that SDC is not only about understanding the theories or memorizing the concepts but they must relate what has been learnt with its application in their life so that the learning of SDC is realistic and appealing to them.

In light of those, this action research was carried out to evaluate the effectiveness of the forum method in the learning of the Self Development Course among students and its link with their interest. This action research was also aimed at pioneering a more suitable alternative to nurture keenness towards SDC among UKM students and at rectifying their misconception towards the subject.

RESEARCH OBJECTIVES

- To gauge students’ response to the use of forum in teaching and learning.
- To identify strengths and weaknesses of the use of forum in the learning of Self Development Course among students.
- To pioneer a new approach in the teaching and learning of the Self Development Course.

RESEARCH METHODOLOGY

This study gives emphasis on the effectiveness of a student-centered learning strategy namely a forum. Forum is a suitable verbal activity whereby students share their knowledge and experience directly to deliver ideas and thoughts in a clear, creative, objective and rational manner. In order to successfully conduct this activity, the chosen title of the forum ought to be simple, interesting and yet challenging to match the skills, achievements and age level of the students. Careful preparations must also be made before, during and after the activity. Forum is a session of discussion in which panelists exchange ideas and opinions to conceive some thoughts on a topic being discussed and it is usually conducted formally.

The sample of this survey involved a group of 73 students divided into three classes. The sample was also divided into two main groups which were the group of forum panelists and the group of audience. The panelist groups would write reports on their experience at two stages from the stage of preparing materials for the forum until the stage of their very involvement in conducting the forum. The audience group would be evaluated as to their interest and their attention to the forum while it was being conducted. The effectiveness of this strategy was known based on an analysis of student reports on the forum activity. The students were asked to fill a questionnaire form given as soon as the activity ended. The questionnaire form consisted of three parts:

- Part A: This part contained information about personal background of the respondent, i.e. gender, race, age and the faculty of study.
- Part B: This part contained 26 questions or statements regarding the audience response to the forum. Students were required to answer the
questions in the form of reports and their views on the forum method and its link to their interest.

- Part C: This part contained only 6 questions to obtain student response and recommendations.

Obtained data were analyzed and coded qualitatively using a technique of textual content analysis of the reports submitted by the students. This enabled the researcher to understand further the issue at hand. This involved four stages:

- Stage 1: Determining analysis units using specific word/sentence/paragraph which was ascertained based on the problem statement of this study.
- Stage 2: Dividing transcripts into analysis units.
- Stage 3: Constructing categories.
- Stage 4: Codifying analysis units into categories whereby each unit of information was classified according to their category which cannot be overlapping with any other category.

Grounded theory analysis was done to determine a hypothesis from the accumulated data. Also done were discourse analysis of texts, semiotic analysis and understanding of interpretative phenomenological experience of the student.

**PROBLEM STATEMENT**

The Self Development Course (SDC) is a general subject offered to UKM students. There is a need to shift the focus of teaching to student-centered teaching from conventional lectures which is lecturer-centered. The reason for this is that, the large number of students spanning over faculties, programs and departments and the large number of groups can occasionally impede effective teaching and learning process (Muhammad, 2007).

According to previous observations, a problem regularly faced was that some students were weak in their basic skills in discussing issues of the forum. They were less skillful in using their own words in developing or discussing ideas and thoughts. There was a tendency of students to pick the subject of SDC depending on certain topics within the subjects only. There was also a lack of motivation from the lecturers to take SDC. Moreover, another factor contributing to the lack of interest in SDC was unsuitable timing of the classes. In addition to the large size of the class, teaching method using lectures alone appeared less appealing to the students, apart from the lack of in-class student involvement and interaction.

Nevertheless, student-centered teaching and learning may face difficulties especially for classes with a large number of students, requiring an additional approach. This study therefore was to find out if the method of forum can help raise student interest in learning the ZT1062 Self Development Course. The method of forum was introduced so that students were exposed to and given opportunity of expressing their thoughts and linking the theories of self development with current issues in life. It was hoped that this approach can instil a healthy rivalry among students to seek knowledge and spur their curiosity to know more about what matters in their life.

**LITERATURE REVIEW**

Ragbir Kaur (2006) defined teaching as a process in which activities are arranged so as to bring about change in behavior and attitude in the student. It also brings to the fore ways how teachers/lecturers should handle any learning activity systematically and not by trial and error (Kaur, 2006). This is because teaching is an action undertaken by the
teacher/lecturer to assist students in gaining skills and knowledge or changing their attitude, level of appreciation or perception (Kaur, 2006).

Teacher/Lecturer-centered strategy is a teaching and learning strategy long practiced in classrooms/lectures. In this strategy, teacher/lecturer dominates and controls all learning activities. This method only focuses on facts delivery because student learning are mainly in the form of remembering and memorizing. Students therefore lack capability of making interpretations. Consequently, students became less creative lacking initiatives (Kaur, 2006). Hence, lecturer teaching must have creative, innovative and pro-active characteristics so that teaching and learning process which takes place can attract student interest making them more effective and efficient.

Among the strategies which should be highlighted is forum. This strategy is based on centering on student and activity as student is encouraged to get involved in teaching and learning activities planned by the lecturer/teacher. If the assignment planned and given by the teacher/lecturer is interesting, it will be able to entice student interest and increase student involvement in the process of teaching and learning (Curriculum Development Center, 1997).

The technique of forum is one of the verbal activities considered effective. This is due to the fact that it involves student sharing knowledge and experience and polishing skills of delivering ideas in a clear, creative and rational manner. This approach is also capable of strengthening student understanding and exploring of knowledge in addition to grooming their talent and exhibiting their oratory skill (Jonassen, 1996).

Discussion on an issue gives opportunity to the students to interact with each other and exchange information on the topic or issue of self development and personality, all in the name of reaching a solution to the issue or problem. However, forum only involves a number of students, causing the rest to only listen and watch as observers as they are not actively involved in the activity (Jamil et al., 2004).

This method of forum can encourage situations for cooperative learning. This is because, according to Slavin (1991), cooperative learning is a method which needs student cooperation to learn and be responsible for team members’ learning on top of their own learning. Students need to get actively involved in discussion session to make the forum activity a success. In addition, they are trained with self accountability and being responsible for each other in the team as well as nurturing skills and social interaction (Kaur, 2006).

**METHODOLOGY**

This study was limited to the target group of 73 UKM students who took the course ZZZT1062 Self Development II during Semester 2 of the 2012/2013 academic year session. Obtained data were based on replies from respondents in the questionnaire which was the textual material of the survey.

Respondents consisted of 34 male students and 39 female students. Almost all were of the Malay race except for a single respondent who was an Indonesian. By faculty, respondents were made up of this: 63 or 86.3% of total respondents were from the Faculty of Islamic Studies, 7 (4.12) were from the Faculty of Economy and Business and the remainder 3 students (9.58%) were from the Faculty of Science and Technology.

Of the 73 respondents, a majority of 40 students or 54.8% had never been involved in any forum activity prior to enrolling into the university. Only 25 respondents (34.25%) had experience getting involved in a forum while the rest (8 students or 10.95%) answered they were unsure whether or not they had been involved in forum activity.
Results of the survey found that the majority of respondents (49 students or 67.12%) agreed that forum is suitable for implementation in teaching and learning. This is because, according to them, the same method of teaching through lectures and PowerPoint© presentation only can cause the students to become bored and wearied. Therefore, a diversified approach to teaching, such as video presentation, pictures, jokes, stories etc., is less boring, able to make the conditions for teaching and learning more attractive and can nurture interests in the students.

Since the time of lectures for SDC was in the afternoon, it was only appropriate for the lecturers to use a variety of teaching method to expose the students to the challenges of activities in which students can take part. However, a few respondents (7 or 9.6%) said that forum was not suitable for teaching and learning while 17 respondents (23.38%) were not sure of the method being suitable or not. This was probably because some students preferred a teaching method of lecture as it is more easily understood compared to the method of forum conducted by the students themselves which can cause confusion with regards to the topics discussed in the forum.

Nevertheless, the majority of students responded positively to the statement that SDC helped them much in conducting the forum which was organized. A total of 56 respondents (76.72%) agreed to the statement while a meagre 6 students (8.2%) did not agree. There were 11 students (15.08%) who were not sure of their answer.

Interestingly, majority of students (56 of them or 76.7% of total respondents) displayed a high level of seriousness and skills even before they conducted the forum in class. These students confirmed that they were able to arrange a strategy to extract data and information to be presented in the forum. A sum of 10 respondents (13.7%) answered they were unsure they were able to do so while only 7 students (9.6%) answered negatively. This gave a view that students were well-prepared prior to their involvement in the forum activity. In fact, a majority of 50 respondents (68.5%) did not agree that forum was not practicable to new students. Only 3 students (4.1%) said forum was not practicable while some 20 students (27.4%) were uncertain.

This survey also found that forum can develop a high cognitive domain among students and increase student problem solving ability. Majority of respondents (63 students or 86.3%) agreed to the statement that forum can increase student problem solving ability. Only 2 respondents (2.73%) did not agree while the rest (8 students or 10.97%) were not sure about the statement. The following table gives a better picture of their answers:

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<tr>
<th>No.</th>
<th>Answer</th>
<th>Total</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Agree</td>
<td>63</td>
<td>86.30</td>
</tr>
<tr>
<td>2</td>
<td>Not Sure</td>
<td>8</td>
<td>10.97</td>
</tr>
<tr>
<td>3</td>
<td>Do not agree</td>
<td>2</td>
<td>2.73</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>73</td>
<td>100</td>
</tr>
</tbody>
</table>

A majority of 53 students or 72.6% of respondents had the opinion that debates in the forum were neither boring nor a waste of time. To them, forum can develop further student creativity, increase their problem-solving skill and enhance ability to deal with current issues effectively. However, 5 respondents (6.84%) saw forum as a cause for their feeling bored and a waste of time. The remaining 15 respondents (20.56%) were unsure of their opinion on the statement.

Apart from that, suitability of topics chosen by each group and discussed in the forum was also able to encourage deep SD learning. Based on analysis, as many as 57 students
(78.08%) said that topics chosen by them are able to develop their soft skills and deeper learning of SD. This occurred as topics debated in the forum matched with topics in the course. Only 7 respondents (9.58%) disagreed with the statement because to them the topics were probably unsuitable with what were discussed in the SD course. Meanwhile 9 students (12.34%) were unsure about the statement.

Besides developing soft skill and enhancing deeper learning of SD, forum can enhance communication skills among students. This was clearly agreed by almost all of the 72 respondents (98%).

Most of them who took part in the forum and its debate activity were prepared materially and mentally. Forum also became a field for them to display non-verbal communication skill. A total of 48 respondents (65.75%) agreed to that statement.

However, 11 students (15.06%) made a stand that forum was less helpful in showing their ability in non-verbal communication. Also, 14 respondents (19.19%) were not sure. To get a clearer picture, see Table: 2 below:

Table: 2
Forum Exhibits Non-verbal Communication

<table>
<thead>
<tr>
<th>No.</th>
<th>Answer</th>
<th>Total</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Agree</td>
<td>48</td>
<td>65.75</td>
</tr>
<tr>
<td>2</td>
<td>Disagree</td>
<td>11</td>
<td>15.06</td>
</tr>
<tr>
<td>3</td>
<td>Not sure</td>
<td>14</td>
<td>19.19</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>73</td>
<td>100</td>
</tr>
</tbody>
</table>

Interestingly, many among the respondents showed a positive attitude toward forum method and its effectiveness compared to the teaching method of lecturing. Result of this opinion poll found that 40 students (54.79%) affirmed that the method of teaching using the technique of forum participated by students is more effective than lectures delivered by lecturers. They probably perceived that teaching and learning by lectures only involve one-way communication and that lectures were less appealing causing students to lose their attention and to fall asleep. To them, forum allowed students to understand the topic more clearly because of its two-way communication in addition to it causing them to help each other. Besides, this approach also gives students chance of interaction among panelists and the audience.

25 respondents (34.25%) meanwhile were unsure about this. It is probable that to them the ideas and information uttered in the forum did not fully give a holistic view of the topic and this should be given due elaboration by the lecturer as it might not be suitable with the level of knowledge students had.

The rest of respondents (8 students or 10.96%) thought that lectures delivered by the lecturer were more attractive than forum technique. Among the reasons why they thought so was that explanation by the lecturer was more profound in elaborating the issue being raised. Choice of words and delivery by the lecturer were more orderly and easier to understand as each substance was explained and elaborated together with examples based on the wider and deeper knowledge the lecturer had on each topic being discussed. Moreover, fora conducted by students gave less understanding to the students due to the way they conducted the forum which was less effective to the audience. Response to the statement can be seen in Table 3 below.
Apart from giving a picture of teaching method effectiveness, this study also identified its link with student interest. Findings of this survey showed that majority of respondents, 49 of them or 67.12%, agreed that forum can give rise to interest in learning SD course among students. To them, learning the SD course is not limited to understanding of theories or memorizing of concepts. They must be put into practice in life.

Only a diminutive amount of 3 students (4.12%) said that forum did not stimulate interest in learning the course. Among their reasons was that, to organize forum activity, certain format of the forum was necessary which was unknown to some of them rendering them clueless in handling the forum activity.

A sum of 21 students (28.76%) answered they were not sure of the statement. To them, interest in the subject is based on the presentation by the panelists. If panelists did not show a good presentation, it would cause a less interesting forum activity. The findings are summarized as in Table: 4 below.

This study found that majority of students (62 respondents or 84.94%) agreed to the statement that forum can develop high skills in information management and lifelong learning. This is because forum is not only able to build confidence within them but also train them to be resourceful in getting and analyzing information more effectively. Meanwhile, only a small number of 4 people or 5.5% of respondents said that they did not agree to the statement. They reasoned that the techniques of forum and debate are less helpful in showcasing their ability and enhancing their skills in the two areas. They also argued that some students were less prepared for the forum causing the forum a mess with some panelists concentrating on the prepared text. In addition to this, a number of panelists were less skillful in discussing the issue causing the students to get bored and sleepy. The remainder 7 respondents (9.56%) stated they were unsure of the above statement. This finding can be seen in a summary in Table 5 below:

<table>
<thead>
<tr>
<th>No.</th>
<th>Answer</th>
<th>Total</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Agree</td>
<td>62</td>
<td>84.94</td>
</tr>
<tr>
<td>2</td>
<td>Disagree</td>
<td>4</td>
<td>5.50</td>
</tr>
<tr>
<td>3</td>
<td>Not sure</td>
<td>7</td>
<td>9.56</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>73</td>
<td>100</td>
</tr>
</tbody>
</table>
Not only is forum capable of developing skills in information management and lifelong learning, but it also encourages students to think critically and be able to identify issues and synthesize solution in detail. This is evident in answers given by respondents who in majority (59 of them or 80.82%) agreed that forum in teaching and learning can encourage critical thinking in students and their ability to identify and discuss an issue in detail. Only 4 respondents or 5.47% stated their disagreement with the above statement while 10 students or 13.71% answered they were not sure.

Based on the analysis, forum gives opportunity to student to build leadership qualities within themselves and forge close relation among them through teamwork. This is because 83.56% of respondents agreed that forum discussion gives opportunity for them to build leadership qualities. Only 4.1% of respondents disagreed with the statement. The remaining 12.34% of respondents were not sure about the statement. Meanwhile, almost all respondents, or 94.52% agreed that forum can forge close ties by working in a team. Only 5.48% of respondents did not agree to the statement.

**SUMMARY**

The teaching mode of delivery using forum has many positive impacts to students and can interest them to learn as well as give a deep grounding of the subject. It can also increase student’s ability to solve problems and encourage constructive communication among students. However, weaknesses on the side of the students in terms of their skills, experience and knowledge when conducting the forum caused the audience's interest to decrease as compared to the one conducted by the lecturer.

Lecturers must take initiatives in teaching and learning method so that students feel less bored and get more interested in self development course. The forum technique should not be restricted to times of lectures only. It can be briefly conducted at other times. This helps students to increase their skills in communication, critical thinking, problem solving, leadership, teamwork, information management and lifelong learning.

Students are likely to view forum as a fun method of discussion and exchanging ideas under lecturer’s guidance. In fact, forum can also be conducted using information technology such as using the application i-FOLIO and the likes. This approach can nurture individuals of high caliber and excellent career success.

**RECOMMENDATION**

Based on the findings in the survey analysis, several recommendations have been proposed to improve the weaknesses in the teaching and learning process of the ZZZT1062 Self Development Course in UKM so that the forum and debate method can attract the interest of the students. The recommendations are as follows:

1. **Sufficient Student Preparation.**
   One of the reasons why students consider forum ineffective and unappealing was that students were less prepared for an interesting and convincing conduct of the forum. Lecturers therefore need to, earlier on in the tutorial class, create collaborative and cooperative learning situations so that the students can discuss among themselves, propose ideas and exchange opinions. Such discussion can help them to prepare a good presentation in the forum. This is because, according to Saemah, through this approach students can learn to work with various individuals, giving them opportunities to reflect on a multitude of response, apart from discussing various issues related to civilizations from different perspectives (Rahman, 2009).

2. **Forum and Mini Discussion in Tutorials and on Website.**
The forum technique should not be restricted to lecture slots only. It can be briefly conducted during tutorials. Besides, by conducting mini forum sessions, students would view forum as a fun method of discussion and exchanging ideas under lecturer’s supervision. In fact, forum can also be conducted using information technology such as using the application i-FOLIO and the likes (Md Yusof & Amir, 2007). According to Supyan, student forum is not spatially limited to physical location and time due to the existence of information technology of computers, the internet and mobile phones. Lecturers can pose questions related to issues regarding personality development which would later be discussed. Students also can ask questions about self development at any time (Hussin, 2009).

Organized forum and debate tournament should be increased to nurture student interest in learning personality development. Through such method, not only can students learn self development theoretically but also they can apply suitable lessons from self development course in their life. It is therefore suggested that lecturers and involved parties should strengthen modules of self development course to encourage contextual learning.

CONCLUSION

Generalization of the results of this survey was based upon the response of 73 students who took part in the forum activities. A more rigorous study must therefore be conducted involving a larger sample and larger number of questions in the survey to obtain a more accurate view.

Acknowledgement: This study is financed by the Research Group of Arabic Culture and Islamic Civilization (KUKAPI, DPP-2014-068), UKM; and the Action/Strategic Research Group (PTS-2012-038), UKM.

BIODATA and CONTACT ADDRESSES of the AUTHORS

WAN ZULKIFLI WAN HASSAN is a Senior Lecturer at Centre for General Studies (Citra UKM), Universiti Kebangsaan Malaysia (UKM, The National University of Malaysia) in Selangor as well as an Associate Fellow of the Institut Islam Hadhari from the same institution. He pursued his Doctor of Philosophy in Syariah from University of Malaya; Kuala Lumpur, Malaysia after completed his earlier first degree of Syariah in al-Azhar, Egypt and second degree in Syariah from University of Malaya, Kuala Lumpur, Malaysia. He teaches the compulsory courses of Malaysian universities including Civilisational Studies, Comparative Ethics and Ethnicity Studies. In research, Wan Zulkifli keen on fundamental research in the are of Shafiet Syariah and Thoughts, history of Islamic Law and civilizational studies, and he has published more than 20 articles and 2 books, apart from frequently presenting in local and global conferences.

Wan Zulkifli WAN HASSAN
Pusat Citra Universiti, Universiti Kebangsaan Malaysia, 43600 UKM Bangi, Selangor, MALAYSIA
Tel: +603 8921 6899
Fax: +603 8921 3185
Email: wenzoul@ukm.edu.my
EZAD AZRAAI JAMSARI (JAMSARI, E. A.) is currently a Senior Lecturer at the Department of Arabic Studies and Islamic Civilization, Faculty of Islamic Studies, Universiti Kebangsaan Malaysia. He graduated with a first class honours bachelor’s degree of Islamic Studies in Arabic Studies and Islamic Civilization from Universiti Kebangsaan Malaysia (UKM, The National University of Malaysia), Bangi in 1997. A year later he joined UKM as a Tutor in Department of Arabic Studies and Islamic Civilization, Faculty of Islamic Studies, UKM. He obtained his master’s degree of Islamic Studies (Arabic Studies and Islamic Civilization) from UKM with a dissertation entitled: “The Nasrid Kingdom of Granada: A Study of Cultural Contribution and Political Survival of Islamic Power in Andalus” in 2002. In the same year he is appointed as a Lecturer at UKM, and currently his research interests are in: Medieval Islamic Political History (Nasrid Era); Medieval Islamic History and Civilization (Andalus & Ottoman); Islamic Military History; Islamic and Arabic Educational History; and Islamic Civilization.

EZAD AZRAAI JAMSARI (Jamsari, E. A.), Corresponding Author
Department of Arabic Studies and Islamic Civilization,
Faculty of Islamic Studies, Universiti Kebangsaan Malaysia
(The National University of Malaysia) 43600 UKM Bangi, Selangor, MALAYSIA
Tel: +60389215291
Fax: +60389213185
Mobile: +60162123343
Email: eajsti@gmail.com
URL http://www.ukm.academia.edu/EzadAzraai/Publication

MOHAMD TAHA has a Master of Philosophy (M.Phil.) from the University of St. Andrews, Scotland. He is currently attached with the Centre for General Studies (CITRA UKM) at Universiti Kebangsaan Malaysia (UKM, The National University of Malaysia).

He is a Senior Lecturer in Islamic and Asian civilizations, ethnic relations and human rights with research interests and publications in history and comparative civilizations, religiosity and human rights.

Mohamad TAHA
Pusat Citra Universiti, Universiti Kebangsaan Malaysia,
43600 UKM Bangi, Selangor, MALAYSIA
Tel: +603 8921 6889
Fax: +603 8921 3185
Email: mt@ukm.edu.my

AMINUDIN BASIR @ AHMAD is an Associate Professor at Centre for General Studies (Citra UKM), Universiti Kebangsaan Malaysia (UKM, The National University of Malaysia) in Selangor as well as an Associate Fellow of the Institut Islam Hadhari from the same institution. He pursued his Doctor of Philosophy in Islamic Thinking after completed his earlier first degree and second in Islamic Studies and Arabic Language. He teaches the compulsory courses of Malaysian universities including Civilisational Studies and Ethnicity Studies, apart from Family Issues and History of Thoughts. In research, Aminuddin keen on research in the area of fundamental studies, Aqidah and Islamic Thought, and civilizational studies and Aminuddin has published more than 30 articles and 5 books, apart from frequently presenting in local and global.
JAMSARI ALIAS currently attached at Centre for General Studies (Citra UKM), Universiti Kebangsaan Malaysia (UKM, The National University of Malaysia) in Selangor.

He pursued his Doctor of Philosophy in Aston University, UK after completed earlier his first degree in Psychology and second degree in Industrial Organisational Psychology, both locally. He teaches the compulsory courses of Malaysian universities including Civilisational Studies and Ethnicity Studies, apart from Soft-skills subjects.

In research, Jamsari keen on qualitative research in the area of teaching and learning, civilizational studies, knowledge management and manufacturing techniques and Jamsari has published more than 10 articles and 2 books, apart from frequently presenting in local and global conferences.

JAMSARI ALIAS
Pusat Citra Universiti, Universiti Kebangsaan Malaysia,
43600 UKM Bangi, Selangor, MALAYSIA
Tel: +603 8921 6912
Fax: +603 8921 3185
E-mail: jamsari@ukm.edu.my

NAZRI MUSLIM is an Associate Professor at Centre for General Studies (Citra UKM), Universiti Kebangsaan Malaysia (UKM, The National University of Malaysia) in Selangor as well as an Associate Fellow of the Institut Alam dan Tamadun Melayu (ATMA) and Institut of Ethnic Research (KITA) from the same institution.

He pursued his Doctor of Philosophy from University of Malaya after completed his earlier first degree in Public Admin & Economics and second degree in Technology Management from Universiti Teknologi Malaysia. His research emphasis in ethnicity and jurisprudents and Nazri has published more than 100 articles and 6 books, apart from frequently presenting in local and global conferences.

NAZRI MUSLIM
Pusat Citra Universiti, Universiti Kebangsaan Malaysia,
43600 UKM Bangi, Selangor, MALAYSIA
Tel: +603 8921 6914
Fax: +603 8921 3185
Email: nazrim@ukm.edu.my

REFERENCES


THE EFFECTIVENESS OF A VIRTUAL FIELD TRIP (VFT) MODULE IN LEARNING BIOLOGY

Norbaizura HARIS  
Faculty of Education  
The National University of Malaysia  
Bangi-MALAYSIA

Kamisah OSMAN  
Faculty of Education  
The National University of Malaysia  
Bangi-MALAYSIA

ABSTRACT

Virtual Field Trip is a computer aided module of science developed to study the Colonisation and Succession in Mangrove Swamps, as an alternative to the real field trip in Form for Biology. This study is to identify the effectiveness of the Virtual Field Trip (VFT) module towards the level of achievement in the formative test for this topic. This study was conducted to 60 students employing a quasi-experimental design involving a treatment group taught using the VFT module and a control group who were taught using conventional methods. Analysis into the effectiveness of the virtual module was done descriptively, followed by inferential analysis involving the two-way ANOVA. The results showed significant differences in the mean scores of pre and post achievement between students taught using VFT and students who were taught using conventional methods for objective, structure and essay type questions. The study concluded that teaching and learning by using the VFT module, integrated with ICT, has a positive impact on student achievement when compared to conventional methods. This study focuses on the use of the VFT recognizing that teachers are often unable to conduct a real field trip on location.

Keywords: Virtual Field Trip (VFT), computer-aided learning (CAL), biology learning, mangrove swamps ecosystem (MSE).

INTRODUCTION

The role of information technology has become so important, especially in the field of education, as a basis for knowledge dissemination. From ‘board and chalk’ teachers now have in the classroom a wide range of sophisticated electronic equipment, which may include some, or all, of the following-computers, projectors, liquid crystal display screens (LCD), cameras, digital videos and smart boards. Schools, teachers and students should take advantage of the available technology to aid the process of teaching and learning, especially computers and the internet (Zainuddin&MohdAzam, 2010). The integration of technology in education, introduced by the Ministry of Education through the Computers in Education programme, focuses on four main subjects - the Malay Language, English, Science and Mathematics. Due to this initiative subject teachers are now trained to use computers to aid teaching (Abdul Wahab et al., 2006); in the context of science teaching...
and learning, a variety of techniques and training stages are employed so that the experience, interests and ability of the student is taken into account so that the learning and teaching of science is an exciting, fun and challenging experience for all students (Law, 2009).

According to Muslim & Siti Jamaliah (2010) and Sumintono et al. (2012), one of the measures of interest in learning about this subject is through the use of information and communication technology; for example, the use of simulation to improve the level of understanding and imagination of students in both theory and abstract sciences concepts.

The employment of a wide variety of teaching methods and techniques is at the heart of the teaching and learning process, because without it the lessons may be dull and tedious for the students of the 21st century who are used to, and familiar with, many different forms of digital media. One method that is often overlooked by Biology teachers is to take students to explore the environment on location through field studies (Wong, 2002). The teachers, with time and economic limitations, may only be able to finish the course in a conventional manner, often without considering a creative way to enhance conceptual understanding and achievement of their students in Biology, and in so doing will fail to develop existing skills in their students. To provide the students with the necessary skills required in our present time is a challenge and as such Sawchuk (2009) suggested that schools implement and monitor teaching to create 21st century skills such as critical thinking, the ability to analyse effectively, good ITC skills, creativity, collaboration and communication. It has been proven by experts that students with these skills are in high demand by employers in the global work market and they also aid entrepreneurial initiative.

Biology, one of the branches of science education, is more meaningful if students are given the opportunity to interact with the environment as a class (Wong, 2002). The integration of technology in the form of the Virtual Field Trip (VFT) module is one method that can bring students closer to nature. According to Wong (2002) this method can indirectly improve students’ cognitive processes and thinking skills leading to a better understanding of concrete Biology concepts. The implementation of teaching learning using this method is also seen to be fundamental to the success of educational development goals. One of the objectives of the curriculum is to develop and enhance creative thinking skills in the student which can only be achieved through creative teaching (Mohamad Mohsin & Nasruddin, 2008). Modifications and improvements that need to be introduced do not diminish the need for traditional teaching methods that are tried and tested. An awareness of the eclectic possibilities that new technologies provide to educators will enable teachers to meet the demand for new and innovative thinking skills which are required in modern day Malaysia and enable its students to acquire them so that the country is able to face an increasingly challenging global environment.

This is consistent with the goals of a Biology curriculum designed to provide students with skills and knowledge in science and technology and to make them able to solve problems and make decisions in everyday life based on scientific attitudes and moral values (Pusat Perkembangan Kurikulum, 2006). Implementation of a non-interactive learning process in conventional teaching causes students to pay less attention to the teacher leading to a poor student understanding and motivation (Chuang & Cheng, 2005). Consequently, to meet the targets for the expansion of good interactive learning, teaching media, or modules with the integration of ICT are needed in classrooms.

The lack of innovative teaching methods in the science classroom has contributed to the low numbers of students opting for the science stream when entering the upper level in high school. According to statistics published by the Ministry of Education from 1981 to
2010, the participation of middle school students in science has not led to the required ratio of 60:40 in later high school studies. The factors identified affecting the quality of teaching science in the classroom include a lack of enjoyment of the subject and students' perception is that science as an academic subject is dull and boring; abstract science concepts are difficult and they may not pass with high marks (Syed Zin, 2003). Other factors include exam-oriented teaching (Lim, 2007) which focuses on passing exams without practical experimentation and field studies. Moreover, less than effective teaching of difficult topics and abstract scientific concepts (Rojahan, 2004) is often disappointing to the student. Enquiry learning is essential to engage the student in scientific investigation and the lack of it affects the interest and the ability of students to actively engage in the sciences at high school level (Khalidah, 2002).

MohdAzhar and Osman (2004) also concluded from the findings of many scholars outside the country that teachers ignore the variety of teaching approaches which enable the student to absorb the creative literacy existing in the wider community. Frequently teachers do not utilize the wide variety of teaching methods readily available, such as storytelling, role-playing, mind maps, tours and inquiry. In the context of the Biology lesson, teachers do not always integrate the use of the natural world through field studies, experiments, demonstration and the use of information and communication technology (Hamsiah, 2004).

Hamsiah points out that the teacher should be able to accept students’ ideas, thus encouraging them to ask questions, leading to positive student enquiry and an understanding of the composition and diversity of ideas, talent and behaviour necessary to develop higher order thinking skills in students. Moreover, according to Rinkevich (2011), teachers who are not creative in their teaching methods can reduce the intrinsic motivation of students in their classroom. Therefore, the use of VFT modules can provide opportunities for students to be autonomous in their work outside the classroom while intrinsic motivation will be enhanced, reducing student stress; this crucial combination of positive factors allows conceptual learning in Biology to be more effective.

Nafishah (2007) in her study found that the main problem for teachers is the additional work of planning a field trip and preparing the necessary work papers, planning and execution of the domestic arrangements (hotels or camping, food etc) as well as the extra administration involved in obtaining permission from the education department and liaising with parents and preparing before travelling to the actual location where the field is to be carried out.

According to her, the safety of students on field trips must be considered and that this may be a significant factor discouraging Biology teachers from taking their students on field trips. In addition, the cost and logistical problems must be considered, including the limited number of students who will attend (not all pupils in the class will be given permission by their parents) a field trip outside the classroom, posing yet another difficult problem for the teacher (Nafishah, 2007).

Therefore, the integration of technology, through a VFT enables all students to explore the places virtually, without the need to consider the issues of cost and other logistical aspects that a real field trip poses.

VIRTUAL FIELD TRIP (VFT)

The field study is a crucial part of science learning in which students will be exposed to the real world so that they can find, evaluate and appreciate what they have learned in a real context (Cram, 2004 and Foley, 2003). Teaching outside the classroom plays an
important role in enhancing the understanding and higher order thinking skills of students in subjects highly relevant to living things and the environment (Bitgood, 1991 and Cram, 2004). This method is well suited to one approach of teaching Biology through inquiry findings. It emphasizes learning through experience and in which students find information, ask questions leading to an investigation of phenomena that occur in real life, providing the student with the opportunity to try to understand the concepts and principles being studied. Teachers will then guide students to understand the concept through inquiry results which are found by the students themselves (Nafishah, 2007 and Bitgood, 1991).

The VFTs that have been widely used in schools in New Zealand through the website LEARNZ provide opportunities for students to find and collect information actively under the guidance of teachers with access to the internet (Nafishah, 2007). VFT application can provide insights into a real situation and encourage students to think actively to form and build their own knowledge.

Bitner (1999) concluded that the use of a VFT provides project-based learning where students are given a problem which they must try to solve through observation. A VFT, integrated with ICT, is able to develop higher order thinking skills in students through interactive media elements. The teacher's role is very important as facilitators so that learning objectives can be achieved. Learning activities using the VFT are well suited to promote naturalist multiple intelligence.

This intelligence has to do with nurturing information related to the natural environment, so crucial in today's world. As such, the student may develop a love for the natural environment, providing crucial motivation, enabling the student to correlate the life of flora and fauna studied in Biology (Bitner, 1999).

In this study the VFT is an interactive software programme, designed by the researcher, to cover the topic on Colonization and Succession in Mangrove Swamps, Biology Form Four. Three learning objectives were selected from the Biology syllabus: (i) describe the process of colonization and succession in mangrove swamp; (ii) distinguish between pioneer and successor species in mangrove swamp, and (iii) identify the adaptation of mangrove plants that survive in an extreme environment. Three objectives were chosen because field study methods are the suggested activities described in Biology Form Four Curriculum Specifications.

According to Cram (2004), this topic is suitable for learning in the virtual environment through the use of video, as the situation in a mangrove swamp is constantly changing at high tide and low tide. Thus, a VFT equipped with a photo gallery and video along with a clear explanation gives students the opportunity to explore and achieve the desired objectives.

The concepts of learning using a VFT include the theories of constructivism, information processing and cognition of multimedia learning. In the process of active learning students are defined as active individuals in constructing knowledge; constructivist elements are created using the VFT. Some of these elements include building communication columns in which students are able to contact the teachers as well as providing the relevant links for students to explore topics in greater depth. This module also encourages a good response from students through reactive elements such as video to generate thought, build curiosity and enable deeper exploration.

The second theory implemented in this module is that of information processing, where students receive a stimulus or receive information from the environment through the
senses that are transformed into neural information, which, in turn, enters the sensory register for a very short time. After the registrar sensory, information goes to the process of selective perception. According to Gagne (1985), the perception will produce new forms of input that will be sent to the short-term memory. Transforming information into short-term memory is by limited and to extend the period, Gagne (1985) recommends the process of repetition. Thus, this module can be accessed by students repeatedly until students reach the desired objectives. Information in short-term memory will enter long-term memory through the encoding process. Here, the information in the form of the initial perception and short-term memory may be transformed into meaningful information effectively and in a variety of forms.

The third learning theory used to design this software is the Cognitive Theory of Multimedia Learning. This theory was put forward by Mayer, based on some previous theories. Mayer (2002), defines cognitive theory as three assumptions based on theories of how people learn from words and pictures; these are Dual Channel Assumptions, Limited Capacity Assumption and Active Processing Assumption. In the cognitive processes of word processing, the student, or learner, will pay attention to some of the words that produce some construction of sound in working memory. In the process of the cognitive selection of images, students pay attention to several aspects of the construction of some of the pictures producing images in working memory. Verbal reasoning involves the process of selecting words and phrases and integrating these into the knowledge base. The cognitive theory of multimedia learning states that meaningful learning occurs when students engage in verbal reasoning and visual space processing. Thus, this module implements several multimedia elements as text, graphics, video and audio in delivering complex and abstract concepts more easily.

Based on the above, this study developed a VFT module that integrates the use of ICT for students to understand the topic of Colonization and Succession in Mangrove Ecosystems. Topics are selected based on the proposed learning activities and teaching of the Biology Syllabus Form Four, through field studies in order to achieve the learning objectives. This initiative is in line with the findings of Yustina (2010) and Attwood et al. (2005) which states that the ICT module provides learning opportunities that are both interactive and effective in improving a variety of skills and achievement in students.

This module is a medium of teaching and learning in a multimedia form which helps the students to understand and master the concepts and other aspects or components of learning, with greater clarity and depth eliminating the need for an actual field study of a mangrove swamp. Specifically, this study aims to examine the effectiveness of a VFT module in Biology for the topic of Colonization and Succession in Mangrove Ecosystems.

**OBJECTIVES**

Based on the problem statement that is presented, the study aims to:

- Identify whether there is significant difference in the mean scores of overall achievement of students taught using the VFT compared with students taught using conventional methods for the topic of Colonization and Succession in Mangrove Ecosystems.
- Identify whether there is a significant difference in the mean scores of achievement for the item's objectives, structure and essays of students who were taught using the VFT compared with students taught using conventional methods for the topic of Colonization and Succession in Mangrove Ecosystems.
RESEARCH QUESTIONS

Based on the research objectives, the research questions are:

- Is there a significant difference in the mean scores of overall achievement of students taught using the VFT when compared with students taught using conventional methods for the topic of Colonization and Succession in Mangrove Ecosystems?
- Is there a significant difference in the mean scores of achievement for the item's objectives, structure and essays of students who were taught using the VFT with students taught using conventional methods for the topic of Colonization and Succession in Mangrove Ecosystems?

RESEARCH HYPOTHESIS

- Ho₁: No significant differences in the mean scores of overall achievement of students taught using the VFT when compared with students taught using conventional methods for the topic of Colonization and Succession in Mangrove Ecosystems.
- Ho₂: No significant differences in the mean scores of achievement for the item's objectives, structure and essays of students who were taught using the VFT when compared with students taught using conventional methods for the topic of Colonization and Succession in Mangrove Ecosystems.

METHODOLOGY

Research Design

Referring to Campbell and Stanley (1963), this study uses quasi-experimental methods. Table 1 summarizes the design of the study conducted.

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre Test</th>
<th>Teaching Strategies</th>
<th>Post Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Group</td>
<td>O₁</td>
<td>X₁ (using VFT module)</td>
<td>O₂</td>
</tr>
<tr>
<td>(n=30)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Group</td>
<td>O₃</td>
<td>X₂ (conventional method)</td>
<td>O₄</td>
</tr>
<tr>
<td>(n=30)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hint:
O₁, O₃ = Pre test
O₂, O₄ = Post test
X₁ = using VFT module
X₂ = conventional method

Research Sample

The sample consisted of 60 students from one of the schools in the state of Selangor, Malaysia. Two groups of students were selected for the treatment group taught using the VFT module and the control group taught using conventional methods. Both groups of respondents were not obtained through a random selection procedure. Pairs of respondents have characteristics very similar to the treatment group and a control group without the use of random allocation procedure.

Research Instrument

The instrument used in this study is the formative test to measure student achievement in the topic of Colonization and Succession in Mangrove Ecosystems designed by the researcher and based on the format of SijilPelajaran Malaysia (SPM), which consists of both objective and subjective (structured and essays) questions. The objective part
consists of fifteen questions that measure the constructs of knowledge and understanding (low level). The three subjective questions (structured) cover the constructs of knowledge, comprehension, application and analysis that are categorized as medium and high level questions. The construct evaluation emphasized in one essay question which is the high level questions.

**Instrument Validity and Reliability**

Validity and reliability of the VFT module are carried out to get feedback from an expert teacher for the multimedia software built. The pilot study was conducted for the assessment of ICT covers the main menu display design, content material, graphics, animation and design operations. In all, the modules have high usability and effectiveness after some improvements as proposed.

The validity of achievement tests are based on the assessment of three Master Teachers of Biology. Schedule item specifications built on low-level, medium and high in 3:2:1 ratio was assessed by specialist teachers. Reliability achievement tests were obtained from a pilot study conducted on 30 students who have characteristics identical to actual samples.

The data is calculated using the Kuder Richardson 20 for the multiple choice, structure and essay questions. In this study, the Kuder Richardson 20 for objective part are 0.74, for structure is 0.73 and 0.68 for essay part. According to Nitko (2004) the reliability values above 0.7 can be accepted and used in research. For subjective and essay items, the values of 0.65 and above are sufficient for research purposes.

**Research Procedure**

Before the test, the teacher will teach students to use VFT module in a computer lab where all students have the opportunity to explore their own topics studied: Colonization and Succession in Mangrove Ecosystems. For the experimental group, lesson started with a set of induction of a situation that needs to be completed by the student at the end of learning. Then, students will explore the VFT module supplied to seek answers to questions tested. Teachers act as facilitators to monitor the students and are willing to answer the questions posed. Upon completion of exploration through VFT modules, discussions will be conducted in order to make sure learning objectives are achieved. Then, students will answer questions to test the topics learned. For the control group, the same topics are taught using conventional methods.

**FINDINGS**

**Differences Mean Scores of Overall Achievement of Students Taught Using VFT with Students Taught Using Conventional Methods for Topic of Colonization and Succession in Mangrove Ecosystems**

Two-way ANOVA analysis is carried out to identify differences in mean total scores for students who were taught using the VFT with pupils conventional methods. Before the two-way ANOVA analysis conducted, Levene’s test was conducted to determine similarity variables were compared. Levene’s test results showed no significant variance-covarian among the dependent variables for all levels of the independent variable with the F=2668 and sig=0.051 (p > 0.05). This means that the variance-covarian dependent variable is homogeneous across the independent variables. Thus, the ANOVA test can conducted to examine differences in total mean scores for students who were taught using the VFT with students taught using conventional methods (Pallant, 2007). Two-way ANOVA analysis results shown in Table: 2 and Table: 3 below.
Table: 2
Mean and standard deviation of difference mean scores for overall achievement of students taught using VFT and students taught using conventional methods

<table>
<thead>
<tr>
<th>Group</th>
<th>Time</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traetment</td>
<td>Pre</td>
<td>30</td>
<td>26.73</td>
<td>16.438</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>30</td>
<td>66.80</td>
<td>11.248</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>60</td>
<td>46.77</td>
<td>24.559</td>
</tr>
<tr>
<td>Control</td>
<td>Pre</td>
<td>30</td>
<td>20.60</td>
<td>12.574</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>30</td>
<td>29.00</td>
<td>16.871</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>60</td>
<td>24.80</td>
<td>15.348</td>
</tr>
</tbody>
</table>

Table: 2 shows the group of students who were taught using the VFT shows the overall results of post-test (mean=66.80 and SD=11 248) higher than the pre-test (mean=26.73 and SD=16 438). Based on the conventional method of the students who showed post-test (mean=29.00 and 16 871 sp) higher than pre-test scores (mean 20.60 and SD =12 574). To see the difference is statistically significant for both the teaching methods used then Two Way Anova test run. Two-way ANOVA test results as shown in Table: 3 below.

Table: 3
Two-way ANOVA difference between pre and post scores
of the overall achievement of students taught using VFT
with students taught using conventional methods

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Min Squared</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>14476.033</td>
<td>1</td>
<td>14476.033</td>
<td>68.979</td>
<td>0.000</td>
</tr>
<tr>
<td>Time</td>
<td>17617.633</td>
<td>1</td>
<td>17617.633</td>
<td>83.949</td>
<td>0.000</td>
</tr>
<tr>
<td>Group * Time</td>
<td>7520.833</td>
<td>1</td>
<td>7520.833</td>
<td>35.837</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table: 3 shows significant differences in overall achievement scores of students taught using the VFT with students taught using conventional methods for the topic of Colonization and Succession in Mangrove Ecosystems with the F=68 979 and sig=0.000 (p <0.05). This shows that the null hypothesis (H01) is rejected. The findings also show that there is a significant interaction between group and time of the overall achievement. Because there are significant interactions then the form of increased for pre- and post-test scores is described as shown in Figure 1 below.
Figure: 1
Mean Difference Scores Pre- and Post- for Overall Achievement for Students Taught Using VFT with Students Taught Using Conventional Methods

Figure: 1 shows that students taught using VFT showed a higher improvement in overall achievement than the students taught using conventional methods.

Difference mean scores of Objectives Item for Students Taught Using VFT with Students Taught Using Conventional Methods for Topic of Colonization and Succession in Mangrove Ecosystems

Two-way ANOVA analysis carried out to identify the differences in mean scores of achievement for objective items students using VFT with students taught using conventional methods. Before the two-way ANOVA analysis conducted, Levene's test was conducted to determine similarity of variables that were compared. Levene's test results showed no significant variance-covariance among the dependent variables for all levels of the independent variable with the F=18.752 and sig=0.000 (p<0.05). This means that the variance of the dependent variable-covariant is not homogenous across the independent variables. Two-way ANOVA can be conducted to compare the mean scores of achievement for objective items for students taught using VFT with students taught using conventional methods because the number of samples for each group is 30 (Pallant, 2007).

Table: 4
Mean and standard deviation of the difference mean scores of objective items for students taught using VFT with students taught using conventional methods

<table>
<thead>
<tr>
<th>Group</th>
<th>Time</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>Pre</td>
<td>30</td>
<td>42.22</td>
<td>20.367</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>30</td>
<td>89.33</td>
<td>7.345</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>60</td>
<td>65.78</td>
<td>28.190</td>
</tr>
<tr>
<td>Control</td>
<td>Pre</td>
<td>30</td>
<td>39.56</td>
<td>18.769</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>30</td>
<td>57.78</td>
<td>26.686</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>60</td>
<td>48.67</td>
<td>24.650</td>
</tr>
</tbody>
</table>

Table: 4 shows a group of students who were taught using VFT shows post test achievement for the objective items (mean=89.33 and SD=7.345) higher than the pre test (mean=42.22 and SD=20.367). Based on the conventional method of the students who showed post test (mean=57.78 and SD=26.686) higher than pre test scores (mean
To see the difference is significant for both methods, then Two Way ANOVA test run.

Two-way ANOVA test results as shown in Table: 5 below.

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Squared</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>8783.704</td>
<td>1</td>
<td>8783.704</td>
<td>22.916</td>
<td>0.000</td>
</tr>
<tr>
<td>Time</td>
<td>32013.333</td>
<td>1</td>
<td>32013.333</td>
<td>83.521</td>
<td>0.000</td>
</tr>
<tr>
<td>Group * Time</td>
<td>6259.259</td>
<td>1</td>
<td>6259.259</td>
<td>16.330</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table: 5 shows that there is significant difference in the achievement of the objective items for students taught using VFT with students taught using conventional methods for the topic of Colonization and Succession in Mangrove Ecosystems with the value of F=22.916 and sig=0.000 (p <0.05).

This shows that the null hypothesis (Ho2) is rejected. The findings also show that there is a significant difference between groups and time in the test results for the objective items.

Differences mean scores of Structured Items for Students Taught Using VFT with Students Taught Using Conventional Methods for Topic of Colonization and Succession in Mangrove Ecosystems

Two-way ANOVA analysis carried out to identify differences in mean scores for the structured items for students taught using VFT with students taught using conventional methods. Before the two-way ANOVA analysis conducted, Levene’s test was conducted to determine similarity of variables that were compared.

Levene’s test results showed no significant variance-covarian among the dependent variables for all levels of the independent variable with the value of F=1.453 and sig=0231 (p > 0.05).

This means that the variance-covarian dependent variable is homogeneous across the independent variables.

Two-way ANOVA can be conducted to compare the mean scores of achievement for the structure items using VFT with students taught using conventional methods (Pallant, 2007).

Two-way ANOVA analysis results shown in Table: 6 and Table: 7 below.
Table 6 shows a group of students who were taught using the VFT shows the post test results for the structured items (mean=60.47 and SD=17.449) higher than the pre test (mean=23.67 and SD=19.931). Based on the conventional method of the students who showed post test (mean=18.87 and SD=16.389) higher than pre-test scores (mean=15.73 and SD=13.243). To see the difference is significant for both statistical methodology that was used then Two Way Anova test was run. Two-way ANOVA test results is as shown in Table: 7 below.

Table 7

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Squared</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>18401.633</td>
<td>1</td>
<td>18401.633</td>
<td>64.246</td>
<td>0.000</td>
</tr>
<tr>
<td>Time</td>
<td>11960.033</td>
<td>1</td>
<td>11960.033</td>
<td>41.756</td>
<td>0.000</td>
</tr>
<tr>
<td>Group * Time</td>
<td>8500.833</td>
<td>1</td>
<td>8500.833</td>
<td>29.679</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table 7 shows significant differences in the mean scores of achievement for the structured items for students taught using VFT with students taught using conventional methods for the topic of Colonization and Succession in Mangrove Ecosystems with the value of F=64.246 and sig=0.000 (p <0.05). This shows that the null hypothesis (Ho3) is rejected. The findings also show that there is a significant difference between groups and time in the structured item of the test results.

Difference mean scores of Essay Item for Students Taught Using VFT with Students Taught Using Conventional Methods for Topic of Colonization and Succession in Mangrove Ecosystems

Two-way ANOVA analysis carried out to identify the differences in mean scores of achievement for students taught using VFT with students taught using conventional method in essay item. Before the two-way ANOVA analysis conducted, Levene's test was conducted to determine similarity of variables that were compared. Levene's test results showed no significant variance-covarian among the dependent variables for all levels of the independent variable with the value of F=2409 and sig=0.071 (p> 0.05). This means that the variance-covarian dependent variable is homogeneous across the independent variables.
Table: 8
Mean and standard deviation of the mean difference scores for the essay for students taught using VFT with students taught using conventional methods

<table>
<thead>
<tr>
<th>Group</th>
<th>Time</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>Pre</td>
<td>30</td>
<td>11.17</td>
<td>12.295</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>30</td>
<td>47.50</td>
<td>14.548</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>60</td>
<td>29.33</td>
<td>22.671</td>
</tr>
<tr>
<td>Control</td>
<td>Pre</td>
<td>30</td>
<td>5.00</td>
<td>8.610</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>30</td>
<td>9.17</td>
<td>11.453</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>60</td>
<td>7.08</td>
<td>10.263</td>
</tr>
</tbody>
</table>

Two-way ANOVA can be conducted to compare the mean scores of achievement for students taught using VFT with students taught using conventional methods (Pallant, 2007) for essay item. Two-way ANOVA analysis results are shown in Table: 8 and Table: 9.

Table: 8 shows a group of students who were taught using the VFT shows the post-test results for the essay items (mean = 47.50 and SD = 14 548) higher than the pre-test (mean = 11.17 and SD = 12.295). Based on the conventional method of the students who showed post-test (mean = 9.17 and SD = 11.453) higher than pre-test scores (mean = 5.00 and SD = 8610). To see the difference is significant for both statistical methodology that was used then Two Way Anova test run. Two-way ANOVA test results as shown in Table: 9 below.

Table: 9
ANOVA bilateral differences in mean scores for the essay item pupils using pupils VFT with conventional methods

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Squared</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>14851.875</td>
<td>1</td>
<td>14851.875</td>
<td>104.566</td>
<td>0.000</td>
</tr>
<tr>
<td>Time</td>
<td>12301.875</td>
<td>1</td>
<td>12301.875</td>
<td>86.613</td>
<td>0.000</td>
</tr>
<tr>
<td>Group * Time</td>
<td>7760.208</td>
<td>1</td>
<td>7760.208</td>
<td>54.637</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table: 9 shows that there is significant difference in achievement scores for essay items for students taught using VFT and students taught using conventional methods for the topic of Colonization and Succession in Mangrove Ecosystems with the value of F=104.566 and sig=0.000 (p <0.05). This shows that the null hypothesis (Ho4) is rejected. The findings also show that there is a significant difference between groups and time in the test results for the essay items.

DISCUSSION

Based on the findings, it was found that the achievement of students taught using the VFT is higher than students taught using conventional methods. This is due to the usability and effectiveness of the VFT module developed by the researcher. This study was supported by the findings of Yustina (2010) and Attwood et al. (2005) which states that the ICT module provides learning opportunities that is interactive, effective and can improve a variety of skills and achievement among students. Presentation of concepts in the topics using graphic and video elements adds interest and excitement for students, and this helps them to focus on teaching. Lowe (2001) says that screening of animation
and video can explain the situation that changes all the time so that it could help explain the procedure or order of occurrence. Learning that facilitates students to think systematically and corresponds to the learning objectives to be achieved.

Students who use VFT have a higher achievement in all three types of items which are the objectives, structured and essay than students taught using conventional methods which only showed improvement in objective items.

This proves that the use of VFT can encourage higher order thinking skills of students compared to conventional methods. This is because the questions posed in the objectives part are low level questions and structured and essay items are high level questions that require students to think in order to answer the questions.

This finding coincides with the opinion of Bitner (1999) that the application of VFT can provide insight into real life situations and encourage students to think actively in the forming of knowledge.

Teaching and learning with encouraging environment in VFT allow students to participate in the entire learning process. This means that students are actively involved in the lesson so that they receive meaningful experiences that encourage them to think and find answers in learning (Rajendran, 2001 and Jackson, 2008).

The opportunities for improvement derived from the teaching and learning methods used. So, using the appropriate materials allows for increased performance in general or specifically.

These findings were consistent with the findings of Rinkevich (2011) that the use of various teaching methods can provide an opportunity for students to enhance intrinsic motivation and conceptual learning will be more effective in biological subjects.

Hamsiah study (2004) also agrees that teachers who often use a variety of approaches such as the use of ICT can improve student achievement because of a clearer statement and interesting delivery of concept.

In addition, the use of VFT could provide an opportunity for students to explore the mangrove ecosystem not in their area. Students can see a graphical display and video clearly which help to improve their achievement in the topic of Colonization and Succession in Mangrove Ecosystems.

This is in accordance with the opinion of Bitner (1999) that the multimedia elements available in VFT provide exposure to the students so that they can find, evaluate and appreciate what they have learned in a real context.

The learning activities in VFT are matched to promote multiple intelligences nature naturalist. This intelligence has to do with nurturing the natural environment-related information, for students to reach a deeper understanding.

CONCLUSION

The results show that teaching and learning strategies using VFT have a positive impact on students’ achievement in all forms of questions which are objective questions (lower level), structured and essays questions (high level) compared to the conventional method which only showed a good performance in objective items.
Consequently, educators need to plan their Biology lesson by finding another teaching alternative if they cannot take students into the real field trip. The findings of this study can improve the quality of education through innovative teaching using VFT. If the lesson is well planned, achievement and students’ thinking skills can be increased to a higher level. The parties responsible will have to formulate an appropriate mechanism to raise the level of preparedness of teachers and students to use the teaching and learning approach that integrates the use of ICT which has been proven very effective through this study.

BIODATA and CONTACT ADDRESSES of the AUTHORS

Norbaizura HARIS is currently pursuing her master’s study in Science Education at the Faculty of Education, the National University of Malaysia.

Norbaizura HARIS
Faculty of Education
The National University of Malaysia
Bangi-MALAYSIA
Email: zuraharis@yahoo.com

Kamisah OSMAN is currently the Deputy Director, Centre of Quality Assurance, the National University of Malaysia. She obtained her Masters in Science Education from the Centre for Science and Technology Education, The University of Manchester, UK in 1996 and continued her doctoral study soon after that at the same university. In 1999, she successfully completed her PhD in Science Education and then joined the National University of Malaysia as a Science Education Lecturer in 2000. Her research interest includes science education, thinking skills as well as curriculum innovation. Besides, she is also immersing herself in maintaining the Quality Assurance and Programme Accreditation processes, not only at the university level, but also national and international levels.

Kamisah OSMAN
The National University of Malaysia
Bangi-MALAYSIA
Tel: +6 03 89214899 (Office):
+60192884814 (HP)
Email: kamisah@ukm.edu.my

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A Study on The Attitudes of Students, Instructors, and Educational Principals to Electronic Administration of Final-Semester Examinations in Payame Noor University in Iran

Dr. Faranak OMIDIAN
Department of Education, Dezful Branch,
Islamic Azad University, Dezful, IRAN

Farzaneh NEDAYEH ALI
Department of Education, Dezful Branch,
Islamic Azad University, Dezful, IRAN

ABSTRACT

The aim of this study was to investigate the attitudes of students, instructors, and educational principals to electronic administration of final-semester examinations at undergraduate and post-graduate levels in Payame Noor University in Khuzestan. The statistical population of this study consisted of all educational principals, instructors, of students of Payame Noor University in Khuzestan. The sample of the study consisted of 19 principals, 46 members of faculties, and 296 students. The instrument of the research (material) was a questionnaire that was designed by the researcher of this study. This research was a descriptive-survey study. The results showed that the attitudes of students, instructors, and educational principals to electronic administration of examinations are positive.

Keywords: Feasibility; electronic examination; Payame Noor University; information technology

INTRODUCTION

Today electronic examinations are considered as an effective strategy to replace the official assessment methods in the higher education system. Ayo et al (2007, p.126) defines electronic examination as a system in which the test is administered by a network or internet. The definition presented in Wikipedia is a definition of electronic evaluation. However, it is related to electronic examination. In its general sense, using information technology in every activity related to evaluation is called electronic evaluation. Using electronic examination is a result of potentials which can be found in internet and intranet. According to El Emary (2006), as more and more universities are connected to internet, and students and instructors learn how to work in an online environment, the potentials of learning by internet are better understood. Web is a tool that can help teachers to create an exiting learning environment and enhance positive competitions among learners (ibid, p.1715). Web can be used for electronic administration of examinations. Many instructors have emphasized the usefulness of electronic administration of examination. Electronic examinations were introduced to solve the problems of paper-and-pencil ones. Electronic administration of examinations can remove all human errors that might occur in paper-and-pencil tests. It gives students the opportunity to see the results immediately. In this way, we do not need to collect the papers across the country and transfer them from one location to another one. In today
world, examinations are administered by internet. Also, the possibility of cheating has been reduced.

Online administration of examinations can be a good solution for structural problems. According to Chiranji et al. (2011), online administration of tests has several advantages, such as accessibility at every time and at a favorite place, rapid feedback, and efficiency.

This point is especially important for students of Payame Noor University, because most students attend these universities in order to have access to distance education without continuous presence at university (Omidian, 2010). Most of Payame Noor University students are married and employed or live in places far from university. Therefore, online administration of test can reduce that type of stress which is associated with time and space of test administration.

A study conducted by a research institute in US has shown that information and communication technology has improved educational systems in developing countries and it can be an effective tool for the development of educational systems in the third millennium. The results of this study have shown a positive correlation between using information technology and level of leaning among students (Brown, et al, 2008).

**METHODOLOGY**

This study was a descriptive-survey research. The statistical population of this study consisted of all faculty members, students, principals and their deputies in Payame Noor University in Khuzestan in 2013-2014. The statistical population of undergraduate students consisted of 28943 students. The whole number of faculty members was 41. The number of principals of universities and their deputies was 19.

In this study, multistage cluster sampling was used. Firstly, two areas in north and the center of Khuzestan were selected. Then, Payame Noor University of Ahvaz was selected from central area. Payame Noor University of Dezful, Shooshtar, Shoosh, and Andimeshk were selected from northern area of Khuzestan.

In the next stage, because the number of undergraduate students must be 300 (according to Morgan table), students of each university were selected by stratified sampling.

As the number of faculty members and principals of universities and their deputies was small, the whole population was taken as the sample. The instrument (material) of the study was a questionnaire that was designed by the researcher of the study. The questions were about the advantages of electronic administration of examinations and their obstacles. A Likert scale was used in this questionnaire.

To determine validity, Pearson formula was used to find the correlation between subscales and the whole score of the questionnaire for students.

The whole score of questionnaire (advantages of electronic administration of examination) for students, instructors, and principals were 0.65, 0.68, and 0.60 respectively.

To calculate the reliability of questionnaire, Cronbach α formula was used. The obtained values (questionnaire regarding the feasibility of electronic administration of final-semester examinations in Payame Noor University of Khuzestan) for students, instructors, and principals were %80, %73, and %74 respectively.
RESULTS

Research Question
What advantages of electronic administration of final-semester examinations are in open universities? This question was addressed based on the views of students, instructors, and principals. These views were investigated separately.

<table>
<thead>
<tr>
<th>rank</th>
<th>Standard deviation</th>
<th>mean</th>
<th>Very high</th>
<th>high</th>
<th>medium</th>
<th>low</th>
<th>Very low</th>
<th>index</th>
<th>questions</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2/80</td>
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<td>223</td>
<td>36</td>
<td>20</td>
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<tr>
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<td></td>
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<td>75/3</td>
<td>12/2</td>
<td>6/8</td>
<td>percentage</td>
<td></td>
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<td>2/90</td>
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<td>29</td>
<td>30</td>
<td>frequency</td>
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</tr>
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<td></td>
<td></td>
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<td>/3</td>
<td>59/8</td>
<td>9/8</td>
<td>10/1</td>
<td>percentage</td>
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<td>3</td>
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<td>0</td>
<td>42</td>
<td>107</td>
<td>110</td>
<td>23</td>
<td>frequency</td>
<td>Improving students' performance on examinations</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>/2</td>
<td>36/1</td>
<td>37/2</td>
<td>7/8</td>
<td>percentage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>0/69</td>
<td>2/34</td>
<td>0</td>
<td>15</td>
<td>94</td>
<td>164</td>
<td>23</td>
<td>frequency</td>
<td>Enhancing the effectiveness of teaching</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>5/1</td>
<td>31/8</td>
<td>55/4</td>
<td>7/8</td>
<td>percentage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0/69</td>
<td>2/65</td>
<td>0</td>
<td>15</td>
<td>189</td>
<td>68</td>
<td>24</td>
<td>frequency</td>
<td>Efficiency at the time and place of examination</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>5/1</td>
<td>63/9</td>
<td>23</td>
<td>8/1</td>
<td>percentage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0/75</td>
<td>2/43</td>
<td>0</td>
<td>25</td>
<td>102</td>
<td>147</td>
<td>22</td>
<td>frequency</td>
<td>Reducing the costs</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>8/4</td>
<td>34/5</td>
<td>49/7</td>
<td>7/4</td>
<td>percentage</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen, question 2 (Reducing the stress which is related to examination) had the highest mean (2.90) and question 4 (Enhancing the effectiveness of teaching) had the lowest mean based on the views of students.
Table: 2
Percentage and frequency of participants who answered the question about advantages of electronic administration of examinations (based on instructors’ views)

<table>
<thead>
<tr>
<th>ranking</th>
<th>Standard deviation</th>
<th>mean</th>
<th>Very high</th>
<th>hig h</th>
<th>answer</th>
<th>medium</th>
<th>low</th>
<th>Very low</th>
<th>index</th>
<th>questions</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0/38</td>
<td>2/95</td>
<td>0</td>
<td>2</td>
<td>35</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>frequency</td>
<td>Reducing the stress which is related to the length of the way</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>0/43</td>
<td>3/24</td>
<td>0</td>
<td>10</td>
<td>31</td>
<td>0</td>
<td>17</td>
<td>0</td>
<td>percentage</td>
<td>Reducing the stress which is related to examination</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>0/86</td>
<td>2/82</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>16</td>
<td>0</td>
<td>41/5</td>
<td>percentage</td>
<td>Improving students’ performance on examinations</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>0/48</td>
<td>2/34</td>
<td>0</td>
<td>0</td>
<td>14</td>
<td>27</td>
<td>0</td>
<td>0</td>
<td>percentage</td>
<td>Enhancing the effectiveness of teaching</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>0/67</td>
<td>3/00</td>
<td>1</td>
<td>6</td>
<td>26</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>frequency</td>
<td>Efficiency at the time and place of examination</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>0/50</td>
<td>2/43</td>
<td>0</td>
<td>0</td>
<td>18</td>
<td>23</td>
<td>0</td>
<td>0</td>
<td>percentage</td>
<td>Solving the problems of learning</td>
<td>6</td>
</tr>
<tr>
<td>1</td>
<td>0/59</td>
<td>3/51</td>
<td>2</td>
<td>17</td>
<td>22</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>percentage</td>
<td>Reducing the costs</td>
<td>7</td>
</tr>
</tbody>
</table>

As can be seen, question 7 (reducing the costs) had the highest mean (3.51) and question 4 (Enhancing the effectiveness of teaching) had the lowest mean (2.34) based on the views of instructors.

Table: 3
Percentage and frequency of participants who answered the question about advantages of electronic administration of examinations (based on principals’ views)

<table>
<thead>
<tr>
<th>ranking</th>
<th>Standard deviation</th>
<th>medium</th>
<th>Very high</th>
<th>hig h</th>
<th>answer</th>
<th>medium</th>
<th>low</th>
<th>Very low</th>
<th>index</th>
<th>questions</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0/94</td>
<td>3/01</td>
<td>2</td>
<td>2</td>
<td>9</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>frequency</td>
<td>Reducing the stress which is related to the length of the way</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>0/51</td>
<td>2/47</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>percentage</td>
<td>Reducing the stress which is related to examination</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>0/66</td>
<td>3/00</td>
<td>0</td>
<td>4</td>
<td>11</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>frequency</td>
<td>Improving students’</td>
<td>3</td>
</tr>
</tbody>
</table>
As can be seen, question 5 (reducing the costs) had the highest mean (3.31) and question 4 (Enhancing the effectiveness of teaching) had the lowest mean (2.31).

DISCUSSION AND CONCLUSION

The results showed that based on the views of students, the electronic administration of final-semester examination has low advantages. Based on Chi squared test (goodness of fit), the value of this test is 168.33, degree of freedom is 2. Level of significance was 0.001 and level of error was 0.05.

Therefore, there is a significant difference between frequencies and the result of test is meaningful.

All in all, the results show that based on the views of students, instructors, and principals, electronic administration of examinations has low advantages. This finding is consistent with the findings of a number of other studies. According to Chiranji et al. (2011), online administration of tests has several advantages, such as accessibility at every time and at a favorite place, rapid feedback, and efficiency. Yu et al. (2003) believe that the time of electronic test administration can differ according to the field of study. This point is especially important for students of Payame Noor University, because most students attend these universities in order to have access to distance education without continuous presence at university (Omidian, 2010).

Most of Payame Noor University students are married and employed or live in places far from university. Therefore, online administration of test can reduce that type of stress which is associated with time and space of test administration. But, the electronic administration of examinations is faced with some obstacles and limitations in the educational systems. Cheating is one of the major problems of such test administration. Test-takers can copy, exchange answers, and search in the internet to find the right answers.

Although various algorithms and software programs have been designed to prevent cheating in these tests (Long et al. 2003; Chiranji et al, 2011), using such tools is expensive for planners and students. So, their use is faced with the problem of feasibility (Clusky et al, 2008). Many experts and researchers believe that paper-and-pencil examinations have a negative impact on the performance of students. According to Hosseini (2007), because of content and structural problems such as questions, limited time, and limited space for test administration, these examinations create a stressful situation for students.

According to a study conducted by Cheng (2005), the national centralized examinations are administered in multiple-choice form that limits students’ learning, because they have to study only those subjects which are included in the test and also they have to learn techniques of success in multiple-choice tests. Oxenham (1984) believes that this type of
examination makes teaching and learning monotonous and boring for teachers and learners. Kamyab (2008) concluded that examinations themselves have become an end, rather than a means for achieving the general goals of education. This has made the educational systems test-based. Syllabi, teachers, and teaching and learning processes focus only on the tests.

Also, limitations of time and space of test administration always create some problems, such as temporary forgetting of subjects, stress, and weak performance of the test-takes. According to Rockwell et al (2000), only %26 of instructors have knowledge about the methods of electronic education and used them. Around %40 of instructors believed that using electronic education can improve quality of education among students. They believed that within 5 years, they have to use these methods besides their traditional methods of education.

%34 percent of instructors said that they have no positive attitude toward electronic education and they do not use these methods. The majority of instructors believed that the reason behind the unpopularity of electronic methods among instructors is the lack of necessary rudiments and equipments.

To explain this finding, we can say that students, instructors, and principals believe in the usefulness electronic administration of test and it can reduce the stress caused by examinations among students.

Therefore, if the learning environments are designed on the basis of meticulous knowledge about the capabilities of information and communication technology, they can enhance the learning of subjects and some other skills, such as problem solving, creativity, planning, management, and social relations. (Weller, 2005, cited in Khalkhali et al, 2011).

Because of growing demands for learning specialized knowledge, we need to change the traditional methods of teaching and learning.

We need to learn how modern technologies can help us to improve learning among students and to give more responsibility to students throughout the process of learning.

Many teachers believe that changing the approaches to teaching and learning and using modern information technology in teaching methods can improve the educational systems and satisfy the communicational needs of a modern society (Khalkhali et al. 2011).

SUGGESTION OF THIS STUDY

- Using information and communication technology and making it one of the priorities in universities
- Training human work force in information and communication technology
- Teaching students, instructors, and principles how to use these technologies
- Providing people with necessary information and developing a clear planning for policy-making
- Designing educational courses in electronic administration of examinations
- Holding seminars, workshops, and training courses and designing brochures and handbooks to offer the necessary information and knowledge for electronic administration of examinations
- Developing the culture of digital world and knowledge about computer by holding seminars, workshops, and educational courses
Preventing the necessary equipments and rudiments
Experimental administration for at least two semesters
Creating a board or committee for electronic administration of examinations
Encouraging decision-makers and members of faculties to administer examinations electronically
Allocation of sufficient budget for electronic administration of examinations, and also training experts who can use software programs and hardware equipments
Improving organizational culture and encouraging people to use modern technologies as well as fighting against biases and resistance to technology change

SUGGESTIONS FOR FUTURE RESEARCH

Studying the factors which might have an impact on electronic administration of examinations and finding new ways for improving them in other provinces
Studying the obstacles which prevent using information technology based on the views of students and instructors
Conducting extensive and applied studies
Studying other aspects of feasibility

BIODATA and CONTACT ADDRESSESS of AUTHORS

Dr. Faranak Omidian is an assistant professor at Education, Department of Educational Sciences, Education Faculty, Islamic Azad University. She obtained her Ph.D degree from Panjab University, Chandigarah, the Department of Educational Sciences, in 2010. Her main research interests are e-learning, computer anxiety, Computer self efficacy and educational management.

Faranak Omidian
Department of Education, Dezful Branch,
Islamic Azad University, Dezful, Iran
Phone: +98-9166461597
Email: omidian.2013@gmail.com

Farzaneh Nedayeh Ali is a graduate student of Education planning, Islamic Azad University Dezful Branch in Iran.

She is administrator in Shahed high school in Shoosh city located in south of Iran.

Her main work experience is to administrate electronic data base in education.

Farzaneh Nedayeh Ali
Department of Education, Dezful Branch,
Islamic Azad University, Dezful, Iran
Phone: +98-9165156138
Email: f.nedayeali@yahoo.com
REFERENCES


BOOK REVIEW

DEVELOPING ONLINE LANGUAGE TEACHING
Research-Based Pedagogies and Reflective Practices
Edited by Regine Hampel and Ursula Stickler

Hasan UCAR
Bilecik Seyh Edebali University, Bilecik, Turkey

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*Developing Online Language Teaching - Research-Based Pedagogies and Reflective Practices* is one of the book series of *New Language Learning and Teaching Environments*. The book is edited by Regine Hampel, professor of open and distance language learning at the Open University, UK, and Ursula Stickler, senior lecturer in the department of languages at the Open University, UK. As a researcher in distance education area, and a coordinator for online foreign language course, I was delighted to find the authors sharing their actual practices, the best practices they are aspiring to, and their perceived training needs. The book fundamentally focuses on the impact of technology on learning and teaching inside and outside the language classroom. It also presents readers with an outline of online language teaching and learning, integrating technology and pedagogy as well as theory and practice. The book has been written to meet the need of language teachers who are keen to engage in online teaching and learning context, teacher trainers in search of resources that they can use with their trainees to develop their online teaching skills, and researchers in language pedagogy as well as theory and practice. The book consists of eleven chapters. Each chapter discusses the integration the information and communication technologies ICT components into online or blended language teaching.

The editors, Regine Hampel and Ursula Stickler, begins with an overview of the book and clarification of the theoretical rationale, sociocultural and social-constructivist ideas. Hampel and Stickler discusses how sociocultural and social-constructivist ideas and ICT guide the authors in this book.
Chapter 2 and 3 focus on the needs and challenges of language teachers’ (full-time, part-time, and freelance) in terms of training in Europe context. Whereas in chapter 2 the authors examines the full-time teachers across Europe, the focus of chapter 3 is on part-time and freelance language teachers. The authors starts by acquiring about language teachers’ situation with respect to the ICT integration into their teaching. After the needs and attitudes of the teachers’ towards ICT found out, the results revealed that full-time language teachers need high quality, appropriate and ongoing training whereas part-time and freelance teachers need fully paid job and integrated continuing professional development (CPD). As the editors stated, in chapter 2 and 3 every language educator, teacher trainer or trainee teacher will find their dilemmas and challenges reflected to some extent.

Even though the book focus on supporting the language teaching professionals and researchers who are keen to engage in online teaching and learning, chapter 4 aims to bridge language teachers and learners. The chapter also addresses the question of what learners expect from their online language teacher. The learners’ views help the language teachers to create successful online learning environment.

In Chapter 5, the authors highlight the importance of the teaching skills that online teachers need in order to generate the required online teaching. Besides, the authors mainly argue technological and pedagogical knowledge and skills which are crucial for computer assisted language earning (CALL). Within this context, matching pedagogies and technologies, developing social cohesion and fostering communication, and enhancing creativity online subjects are also discussed.

The authors of chapter 6 introduce free online resources for self-training and integrating online resources into language classes. This chapter allows language teachers to select the most suitable resources for their own training. I especially liked this chapter because it is like a travel guide. It mainly presents typology of free online training resources, self-training modules and online workshops, massive open online courses (MOOCs), directories of online tools, and online communities of practice.

Chapter 7 covers open educational resources (OERs) and open educational practices (OEPs) for language teachers. The authors describe these terms in general and give some examples of how OEPs can be incorporated into teaching and professional development of language teachers. Also online spaces in which OERs can be found and shared are outlined.

In chapter 8, the authors introduces communities of practice to support and nurture the language teachers. The chapter defines and explores three different communities of practice for language teachers and examine some of the key elements of these communities impact on the success of a community of practice. In addition, the chapter provides initial considerations and guidelines for the establishment of successful online communities of practice.

In chapter 9, the authors present suggestions for self-reflective research of the online language teacher. After examining a number of pedagogical approaches to online teaching, various methodologies such as participatory research, action research, ethnography, and discourse analysis are suggested to investigate the online teaching by practitioners themselves.

Chapter 10 shows the importance of shaping training to teachers needs and of learning collaboratively. The chapter also describes the Developing Online Teaching Skills (DOTS) project, whose aim was to develop self-training activities for language teachers, supported by the European Centre for Modern Languages (ECML). In addition, practical suggestions on how teachers can use the freely available DOTS resources are also presented.
In the final chapter, the authors serve proofs for DOTS project and the approach it is based on, in Turkey context. The DOTS materials and research instruments has been used to train a number of Turkish teachers of English in the use of ICT tools in their own context. The authors present their findings and the challenges encountered. Based on the authors’ findings, most of the language teachers had positive views about the effectiveness of DOTS materials and tools.

This book should be required reading for all language teachers, and teacher trainers not only those who teach online. Language teachers and teacher trainers, who are interested in developing online language teaching and those who are making or wants to make research will benefit from actual practices, theoretical discussions, and the practical observations that the authors of *Developing Online Language Teaching - Research-Based Pedagogies and Reflective Practices* offer.

**BIODATA and CONTACT ADDRESSES of the AUTHOR**

Hasan UCAR is an English language instructor in the Department of Foreign Languages at Bilecik Seyh Edebali University, Turkey. He received his Bachelor’s degree from College of Open Education, English Language Teaching Department, Anadolu University. He holds a Master’s degree in the Department of Distance Education from Anadolu University. Currently, he is a doctoral candidate in the Department of Distance Education, Graduate School of Social Sciences at Anadolu University. His research interests are mainly Instructional Design/Technology and Motivational Instruction Design in Online Learning Environments.

Hasan UCAR  
Bilecik Seyh Edebali University,  
Bozuyuk Vocational School, 11300  
Bozuyuk, Bilecik, Turkey  
Phone: +90 (228) 2141315  
e-Mail: hasan.ucar@bilecik.edu.tr

**REFERENCES**

http://www.palgraveconnect.com