The Online Journal of Distance Education and e-Learning

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TOJDEL
The Online Journal of Distance Education and e-Learning

Message from the Editors

TOJDEL welcomes you. TOJDEL looks for academic articles on the issues of distance education and e-learning. The articles should discuss the perspectives of students, teachers, school administrators and communities. TOJDEL contributes to the development of both theory and practice in the field of distance education and e-learning and accepts academically robust papers, topical articles and case studies that contribute to the area of research in distance education.

The aim of TOJDEL is to help students, teachers, school administrators and communities better understand how to use distance education and e-learning for learning and teaching activities. The submitted articles should be original, unpublished, and not in consideration for publication elsewhere at the time of submission to TOJDEL. It provides perspectives on topics relevant to the study, implementation and management of learning with distance education.

This journal was initiated in January, 2013 to share knowledge with researchers, innovators, practitioners and administrators of education. We are delighted that a lot of researchers, practitioners, administrators, educators, teachers, parents, and students from around the world have visited last five issues between January 01, 2013 and April 01, 2014. It means that TOJDEL has diffused successfully new developments on distance education and e-learning around the world. We hope that this volume 2 issue 2 will also successfully accomplish our global educational goal.

We are always honored to be the editors of TOJDEL. Many persons gave their valuable contributions for this issue. I would like to thank the editorial board of this issue.

TOJDEL, Sakarya University, Governor State University and Ohio University will organize International Distance Education Conference (**Error! Hyperlink reference not valid.**14) (www.id-ec.net) December, 2014 in Doha, Qatar. TOJDEL also supports Sakarya University to organize International Educational Technology Conference (www.iet-c.net) in Chicago, USA and International New Horizons in Education (INTE-2014) (www.int-e.net) in Paris, France.

For any suggestions and comments on the international online journal TOJDEL, please do not hesitate to contact with us.

April 01, 2014
Editors,
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Academic Libraries In The Digital Age: Best Practices For Modernizing The Library

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ABSTRACT

This paper addresses the practical changes to the library field that continue to take place as technology advances. These changes include changes to physical space, collection development, and librarian workflows. It will also include best practices to modernize the academic library to best complement a technologically driven university.

Keywords:

INTRODUCTION

There is no doubt that the digital age has changed the way libraries operate. In the case of the academic library, modernizing the collection and the space in which the library operates has been a constant chase to keep up with the changing goals and roles of the university. As the university strives to provide the most technologically advanced classes and degrees to its students, the academic library has been faced with a variety of challenges to its usefulness and relevance.

In order to meet these challenges, the library has had to change. The first change to happen to the academic library was a change in the way collections were curated and developed. Though paper volumes are still the bulk of the library's collection, they are no longer the bulk of their spending, with alternative formats winning out over the print materials. Following that change was a change in librarian workflows. With the new technology, the processing and acquisition of new materials changed, but the changes did not stop there. Public services librarians found that they were answering new and more complex questions, stemming from the new resources and new academic departments on campus. Even special collections librarians found their roles changing, as people clamored to be able to access more materials - even those that were rare and fragile - virtually. All of these changes led to a physical transformation of the library that would allow library faculty and staff to better serve their patron population and to make access to and use of all of their materials easier.

BACKGROUND

The impact of the digital age in the academic library started much sooner than it did for the general public. Typically on the cutting edge of technological advancements due to grant research, universities employed new technologies at a rapid rate very early in the process, but it was not until the 1980s that research began to grow at an exponential rate. As Foltz, et. al point out, this growth in technological advancements at the university level was a direct result of the Bayh-Dole Act, which increased the university's capacity for patent activity (2012). This put pressure on the academic library to advance their technological use over their public counterparts. One of the first technological advances to hit the academic library was the computerized card catalog. This allowed libraries to rapidly add items to their collection, and allowed their patrons to find materials quickly. This also dramatically impacted the technical services aspect of the academic library, as the digitization of MARC records, first used in the 1960s, was instrumental in making the digital catalog a success (Arms, 2012).

The second large step in technology in academic libraries was the advent of electronic resources. Twenty years ago, electronic resources were just beginning, and print resources reigned supreme (Burrows, 2006). What began as some articles, and then later whole journals, being put up on the internet to be accessed by computer quickly snowballed into databases, and then later database aggregators. This new format of materials changed the way money was allocated in acquisitions, and disrupted the flow of reference assistance in public services. As more students were able to access the materials that they needed from the comfort of their homes and dorm rooms, academic libraries had to come up with a variety of ways to entice their students into their libraries.

ACADEMIC LIBRARIES IN THE DIGITAL AGE

While concerned about dwindling patron counts and worried about how they would justify their budgets, academic libraries in the digital age knew that they could not ignore digital materials. Studies by the ACRL show that academic libraries are facing ever-increasing budget cuts, and the prospects for reference desk staffing continue to decrease (Dubnjakovic, 2012), but libraries must continue to give their patrons what they want. The rise of the e-reader in its various forms (Nook, Kindle, and Kobo, just to name a few) was an opportunity that the university library could not afford to pass up. While there is mixed data on the usefulness of the e-reader for some disciplines (most notably medical and art disciplines), there are other disciplines that benefit greatly from the e-reader. It has been noted that it is much more convenient to have all ones' books at their fingertips via e-reader (Zimerman, 2011). No longer do English students have to carry around and keep track of dozens of texts for each of their classes. The same can be said for history and other reading-intensive disciplines. Electronic resources are also ideal for science disciplines which are constantly changing, though these disciplines tend to be more focused on articles accessed by computer, rather than textbooks on e-readers. Moving the e-reader technologies to other platforms (such as tablets, cell-phones, and computers) has also greatly increased their usefulness (Zimerman, 2011).

Because of this, electronic resources became a large part of the library budget. This knee-jerk effort, however, left library budgets a mess and led to even more possible headaches regarding copyright and accessibility. The newest trends in libraries are toward a more thoughtful collection, even when it comes to e-resources. Now, though, rather than being concerned about space, as libraries typically are when it comes to physical resources, they are more concerned about cost and duplication of materials. It is not atypical for a popular journal to be part of several databases - making it appear that the library is paying for the same material over and over again. However, careful negotiation with database aggregators can ameliorate the effect that this phenomenon has on the collection. Also important is careful examination of the use statistics of the various databases. A cost-benefit analysis should be performed periodically to make sure that they electronic resources available are worth what they cost.

All of this careful curating of the library collection is useless if the students do not come to the library to use it. Rather than relying on the idea that the library was necessary to students education, academic libraries have gone on the offensive, with lengthy and sometimes expensive marketing campaigns to let students know about the resources that the library has to offer. Some marketing tools have been traditional - flyers, pamphlets, and rack cards - while others have been more outside the box. In order to celebrate the opening of a new information commons in their library, for example, Old Dominion University mocked up the new space in a popular computer game, allowing their students to see what was happening to the space before it was even open (Old Dominion University Libraries, 2013).

Other marketing tools for libraries include the library website, a standard feature of every academic library. From the library website, academic librarians can link their students to Twitter, Facebook, LinkedIn and a host of other social network and media sharing sites to keep them abreast of what the library is doing and can do for them. In today's libraries, marketing is just another facet of outreach, which is a core component of library service.

In seeking to perform more outreach for their patrons, it is important to get the librarian out of the library. Anecdotal evidence supports the idea that students are more likely to seek out help if they know someone who works at the library, and "knowing" a librarian is as simple as having interacted with him or her during a class. Technology has made this easier; now, library instruction sessions no longer need to be confined to within the walls of the library; with most of the resources students want online, an instruction session can consist entirely of teaching the use of popular databases (Thull and Hansen, 2009). To make a more well-rounded experience, virtual tours of the library using footage conveniently housed either on the library's website or popular video sites can show students how to navigate the library before they ever set foot in it. More importantly, because these resources and more are available on the library's website, the learning experience does not have to end when the librarian leaves the room.

All of this has led to a change in the physical space of the library. Some of the change has come from necessity, as students expect more technology, but some of it has come from ability, as digital collections replace physical ones and more space becomes available in the library. The crowning achievement in the transformation of the library from analog to digital has been the information commons. Though the digital revolution may have started elsewhere on campus due to the introduction of computer labs in whatever buildings or spaces were available, the information commons can be more than just a computer lab in a library. It becomes something more than the sum of its parts by melding the technology that students expect with the knowledge and information resources that they need to complete their assignments.

By placing computers and other technology, such as collaborative work stations and maker spaces in the library, the library can regain its status as a place where knowledge is put to use. However, instead of just slaving over term papers until the wee hours of the morning, students can use the information commons to do all their work.

What seems to shock both students and faculty alike about these places is that they break the stereotype of the quiet library. While it is likely and even advisable that some areas of the library should remain quiet, contemplative areas for individual study, the information commons is the antithesis of the idea; it is all about the exchange of ideas, and the exchange of ideas is a noisy prospect. However, this can answer an old conundrum for the library: by making these spaces where noise is okay, they can ameliorate the effects of high traffic areas, by allowing the high traffic noise to just become one with the rest of the noise.

A perfect example of this has been what we have done at the main campus of Western Kentucky University. In the fall of 2012, renovation began on the entrance floor of Cravens Library. Because of how our campus sits, the entrance floor is actually the fourth floor of the building, and sees heavy traffic, especially when weather conditions are bad - heat, cold, or precipitation, there are more bodies coming through the fourth floor of the Cravens library and its sister building, Helm. The fourth floor of the building has traditionally housed circulation because it was an entrance/exit floor, and not much else. The reference area for the library complex was in the building next door, which was attached by a breezeway on the fourth and fifth floors of Cravens - floors one and two of Helm. After construction, the circulation area remained in place on the fourth floor of Cravens, but was joined by thirty computers, several collaboration stations, and a new service point desk that had reference services, technological assistance from the campus IT department, and writing services provided by the English department.

In the eleven months that the newly christened Commons at Cravens has been opened, all three of the departments represented at the service point have seen more use, and the computer lab is packed with people, though there are computer labs available elsewhere in the building. The addition of the Commons at Cravens has also changed the patron flow of the building; the entrance which houses the Commons has seen an increase in patron count compared to the second building entrance, which was typically more popular due to the presence of a coffee shop.

All of the changes that are being made to the library are in the best interests of the patron, but can be daunting for the library personnel. They require a certain leap of faith - changing how effectiveness of the library and the librarian is measured. However, these changes are necessary if libraries are going to remain relevant to the university.

FURTHER IMPLICATIONS

The digital age has been one fraught with complications, but it has not stopped the academic library from continuing to provide the best service it can to students, faculty, and staff alike. As the pace of electronic publishing continues to grow, more of the librarian's time will be taken up with managing these resources. Future research should focus on comparing the usage of electronic resources to print resources across the disciplines, to ensure that the solutions being proposed do not adversely affect disciplines still interested in print collections. There will not be a one-size-fits-all solution to this new challenge, but many smaller solutions that come together to make a cohesive answer to the digital age.

CONCLUSIONS

As academic libraries move forward and embrace the digital age, we must remember that it is not necessary to abandon materials. In fact, we should be turning a thoughtful eye on how we develop our electronic collections, treating them as carefully as we have our print collections. Though our parameters for accepting or rejecting new electronic materials may be different from the ones we use for print, they are no less important. Maintaining a balance in the collection is the key to juggling our responsibilities with the realities of the budget. To build up usage of these materials, librarians should be focusing on marketing not only the materials that the library has collected, but the physical space and their own expertise. Only then will students and faculty see the value in what academic libraries have to offer.

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Information Technology Enhances Students' Academic Performance: A Case Of University Of Ilorin

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ABSTRACT

This study aims to investigate the impact of Computer Based Test in enhancing students' academic performance, its acceptance and how it can be improved upon. In addition, the study also tries to access the computer ownership and its impact to students' performance in Computer Based Testing. The study use questionnaire-based survey to gather responses from the students in order to understand if technology usage has impact on student's academic performance, and their acceptance of technology to conduct examination. Findings of this study shows significant relationship between computer ownership and the use of technology for examination, and technology with students' academic performance. The findings should assist the learning institution to improve the implementation of e-learning in order for the students' to have best results and facilitate its technical know-how so that it will gain acceptance by all the students especially the at-risk students and the physically challenged. The research provides useful information for learning institution based on the students' academic performance due to the recent development and implementation of Computer Based Testing.

Keywords:

INTRODUCTION

Information Technology had turn to a very significant tool in order to ease our daily activities. Several organisations had accepted the use of Information Technology as a tool that need to be understood, know the concept, and have the ability to properly adapt its usage. Universities are becoming familiar with the adaption of Information Technology in their system. This is seen as a fuel that increases the speed of proper academic activities and good administration in the University system. Different infrastructures and technologies are utilised for processing and transmitting data or information been captured. These infrastructure and technology range from that of the University to that of the staff and students, and these include devices such as mobile phones, personal digital assistant, computers, radio, television, network communication devices, satellite system, hardware and software, as well as other different services and applications (Kumar, 2006).

The use of these technologies which were designed for other purpose had found its way into the educational environment. In such a way that nobody in the educational institution is left out in regard to its usage, starting from the top management, across the staff to the students. To some researchers, it enhance academic activities while, other researchers call it e-learning or embedded learning, whatever the terminology it is called, the purpose is to make learning and knowledge gain easy for the students and make learning assessment easier for the academic staff while keeping effective and efficient record by management for various usage.

With the use of computer and related technology, a special way for learning assessment was devise and named Computer-Based Testing or Computer-Based Assessment or e-examination. It is a way for conducting, processing, recording and assessing examination in an electronic format. As the name implies and adapted by University of Ilorin, Computer-Based Testing makes use of a computer in order to assess students based on their courses of study. This computer could be a stand-alone with a learning management system installed within a local network or virtual learning environment which can be accessed through the web.

Computer-Based Testing had been available in various forms and has grown from its initial focus on certification testing for the IT industry as well as language examinations such as TOEFL to a widely accepted delivery

model serving elements of virtually every market once dominated by paper-and-pencil testing. Friedrich (2008) noted that CBT allows trainers and teachers to plan and report on surveys, quizzes, tests and examinations. Proper application and use of these technologies facilitates learning (Ndume et al., 2008). With the use of these technologies both the teachers and students had been witnessing an excellent performance in the academic activities. Ugwuadu and Joda (2013) Found students taught with computer mediated learning performed better in class than the conventional students.

However, students' assessment is a very important aspect in the learning process, as it helps the student, parents, teacher and the management to determine performance and take various decisions on the students' learning. The conduct of examination as an assessment is as significant as the total process of learning due to its validity and reliability to the student, teacher, management and other relevant institutions that the result could be employed.

While computer-based testing is becoming an increasingly accepted testing solution used for conducting examination, there are still many factors that must be considered when choosing and implementing a CBT, such as its acceptance by students, adoption into the academic system, and its influence on students' academic performance. This gave the bases for success recorded by University of Ilorin in deploying CBT for courses within the university and not focusing only on post-UTME as employed by other universities. This paper tend to highlight the relationship between the CBT and students' academic performance, computer ownership and also its acceptance by the students, while also represents an advocacy for other universities to emulate and adapt the usage of CBT to conduct examination in order to enhance students' academic performance.

CBT IMPLEMENTATION AND UNIVERSITY OF ILORIN

University of Ilorin, established by military decree in 1975 is located at the western part of the country with geographical and cultural confluence of the Northern and Southern Nigeria and which is one of the preferred university by students while also one of the top ranking university in Nigeria (University web rankings site, 2014) became one of the first to start organizing post-UTME as far back as 2005 due to admission challenges, as an entry requirement into the University using the Pen and Paper Testing (PPT) format.

Observation revealed that the conduct of post-UTME screening examinations and other examinations with a large population of students in university of Ilorin, using the PPT method, was difficult with a lot of limitations resulting to invalid and unreliable outcomes. To find solution to these challenges and move towards an increasing ICT smart society, the University of Ilorin among other activities commenced the CBT method for its post-UTME screening exercise for admission in 2008. Activities such as learning assessment is seen as a very important aspect in the educational operation and therefore the outcome is used to take many academic and administrative decisions.

The University presently had overcome the problems associated with the CBT and moves towards deploying and adapting this technology to conduct other examinations such as university courses with large population of 500 students and above, likewise any academic staff that wish a course to be assessed using CBT for a population of 250 and above, such courses among others include the General Studies, Elementary or Faculty-based courses and Medical courses that uses multiple-choice questions. This method of testing cannot be overlook due to its improvement over the former PPT method and many advantages it possessed which include high standard examination questions, conduct of examination by students and staff made easy, elimination of incompetency and indecency in the part of both the staff and students such as incomplete or missing results, result manipulation and malpractices, instant feedback to students is provided, improved reliability among staff and students, enhanced question styles which incorporate interactivity and multimedia, improved impartiality, greater storage efficiency, reduced costs for many elements of the testing life cycle, improved test security resulting from electronic transmission and encryption, while also increase candidate acceptance and satisfaction.

An individual's attitude and satisfaction are important variables in the learning process. Gattiker and Hlvaka (1992) observed that there is less research assessing the attitude of the students to a computer based test in order to determine performance however, Tella and Bashorun (2012) found students to have positive attitude toward technology usage within an academic setting. This is a reflection of the fact that research that address students satisfaction and performance towards technology need to be conducted to understand the effect of the new technology in University of Ilorin more than six years after CBT was initiated to conduct university-based course examination. Perhaps, Alabi et al. (2012) and Jimoh et al. (2012) are two important studies conducted to check the CBT method and students' perception on CBT conducts in the university but lack the ability to correlate between the students' academic performance with examination satisfaction and students' computer ownership.

Different variables play their role on student's performance when questions are presented on a computer, one of the variable is considered to be the quality of the monitor (Schenkman, et al., 1999). Burns (2013) in her report on BBC News education identified that lack of computer ownership due to poverty also causes poor performance at

school. According to Van Dijk (2012), motivation to own a computer increases fast due to largely technological diffusion in the society. Hence students are motivated and compulsion in some instance by faculty to own a computer as a prerequisite to their registration as university students, and these show a great deal in their computer ownership as the university is moving towards a smart society.

UNIVERSITY ACADEMIC GRADING SYSTEM

The University of Ilorin is not left out among its counterparts in the usage of the most popular grading system in Nigeria by the Nigerian universities. According to a popular educational websites; World education services (2012) and Classbase (2012), six different letter grades are identified to be popularly used in the Nigerian University system which starts with the 'A' as an 'excellent' grade and 'F' as a 'fail' grade. The 'excellent' and 'very good' grade are the best and most desirable by students while, the 'pass' grades are the weak grades that are less desired by students. The 'credit or good' grade is an average grade while the 'fail' grade signifies repeating taking again the course. The scale of the grading system is shown in Table I.

Table I: University Grading System in Nigeria

Grade	Grade Point Average	Scale (%)	Interpretation
A	5.0	70 to 100	Excellent
B	4.0	60 to 69	Very Good
C	3.0	50 to 59	Credit/Good
D	2.0	45 to 49	Pass
E	1.0	40 to 44	Pass
F	0.0	0 to 39	Fail

METHODOLOGY

Data for this study was obtained using a questionnaire among 102 students in their 100 level and 91 students in their 200 level of study bringing the total to 193 students by providing them two major courses each that are offered at their level of study; these are faculty courses that all the students in the faculty will have to offer in their prospective level of study, for the 100 level students one of the course is a CBT and the other course a Non-CBT, likewise the 200 level students are having a CBT and a Non-CBT course. Each of these students that administered questionnaire provided access to their grades in the university students' record database. All the four courses used for the study were offered in Harmattan Semester (First Semester). The study included only the 100 level and 200 level students of the faculty of Communication and Information Sciences of University of Ilorin.

IBM SPSS statistics for Windows version 21 was the main software used for performing analysis. Analysis performed on the data includes descriptive statistics and Pearson's correlation coefficient, which checked students' academic performance and the relationship between Computer ownership, students' satisfaction and CBT.

FINDINGS

For 100 level students, there are 102 students whose responses were successfully used for the study. Table II shows the number of students in their 100 level of studies whose grades are given for the CBT course and a Non-CBT course offered. Table II shows that 66.7 Percent of students scored higher grades, 14.7 Percent scored an average grade, 8.8 Percent scored lower grades and 9.8 Percent failed in the CBT course while 25.5 Percent of students scored higher grades, 32.4 Percent scored average grade, 23.5 Percent scored lower grades and 18.6 Percent failed in a Non-CBT course offered.

For 200 level students, 91 students returned their responses and were used. Table III shows the number of students in their 200 level of studies whose grades are displayed for the CBT and Non-CBT course. Table III shows that 68.1 Percent of the students scored higher grades, 17.6 scored average grade, 11 Percent scored lower grades and 3.3 Percent failed in the CBT course offered. While 40.7 Percent of students scored higher grades, 31.8 Percent scored average grade, 18.7 Percent scored lower grades and 8.8 Percent failed in the Non-CBT course offered at their second year of studies.

Table IV shows the mean and the standard deviation (SD) for both the CBT and Non-CBT course grades of students at 100 and 200 levels of their studies. Table V shows usage frequency and computer ownership by students while Table VI shows the correlation between students CBT academic performance with their satisfaction with CBT examination and computer ownership.

Table II: 100 level Students' grade in CBT and Non-CBT

100 Level					
CBT			Non-CBT		
Grade	N	P (%)	Grade	N	P (%)
A	38	37.3	A	11	10.8
B	30	29.4	B	15	14.7
C	15	14.7	C	33	32.4
D	6	5.9	D	10	9.8
E	3	2.9	E	14	13.7
F	10	9.8	F	19	18.6
Total	102	100	Total	102	100

Table III: 200 level Students' grade in CBT and Non-CBT

200 Level					
CBT			Non-CBT		
Grade	N	P (%)	Grade	N	P (%)
A	40	43.9	A	15	16.5
B	22	24.2	B	22	24.2
C	16	17.6	C	29	31.8
D	3	3.3	D	7	7.7
E	7	7.7	E	10	11.0
F	3	3.3	F	8	8.8
Total	91	100	Total	91	100

Table IV: Mean and Standard Deviation for CBT and Non-CBT grades

	CBT		Non-CBT	
	M	SD	M	SD
100 Level	61.67	30.68	41.33	20.59
200 Level	58.17	30.48	45.67	23.94

Table V: Computer ownership and frequency of usage

Computer usage frequency and Ownership	Scale	F	%
Do you own a computer	No	0	0
	Yes	193	100
How frequent do you use computer daily	Less than1 hour	3	1.6
	1 to 3 hours	90	46.6
	4 to 6 hours	82	42.5
	More than 6 hours	18	9.3

Table VI: Correlation between Performance and (satisfaction and ownership)

	I am satisfied with CBT Examination	Do you own a computer
I have better grades in CBT Examination	.363[**]	. 263[**]

DISCUSSION AND CONCLUSIONS

The widespread of technology has led to the institutions adaption and motivation to own a computer by students increases due to technological diffusion in the learning institution. This computer ownership plays an important role towards students' academic performance. This was also in line with the study by Burns (2013) who found computer ownership to increase students' academic performance in the developed countries. Courses in CBT are seen to have benefited the students by having best grades with little number of students who failed and that of Non-CBT seen with less performance compared to CBT. All the students are reported to possess a computer system; this shows the level of compliance by students to have a computer, being a prerequisite for their registration. More than 98 per cent of these students use their computer for more than one hour a day. The correlation shows that there is significant relationship between the students' level of satisfaction with CBT and computer ownership with students' academic performance. These are all positive relationship, which mean students who are satisfied with CBT perform well academically and those that possess and use their computer frequently will be familiar with the monitor quality (Schenkman, et al., 1999) in CBT and decrease anxiety of using a technology.

In conclusion, this finding will help other academic institutions not to hesitate in the deployment of technology for learning and conduct of examination as its impact can directly be seen among the undergraduate students of University of Ilorin.

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Quality in private higher education system; New challenges regarding student's satisfaction

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ABSTRACT

The demands for quality standards in higher education are increasing due to competition as a result of massification and internalization process of universities. The expectation for better performance in quality of teaching, academic research and other related educational activities are forcing universities leadership management to rethink their strategies. Approaching the philosophy of Total Quality Management (TQM) can lead leadership management of universities to desirable results regarding continues quality improvement in higher education. In the centre of TQM philosophy in higher education is student satisfaction. Understanding and satisfying student's needs are the cause of existence for all higher education institutions. Therefore reaching quality standards in higher education is significant regard meeting the expectations of students, especially for newly established private higher education institutions. The main purpose of this study is to examine the role of student satisfaction regarding quality assurance in Albanian private higher education institutions.

Keywords: Higher education, TQM, quality, student satisfaction, private IHE's

INTRODUCTION

Nowadays, in this globalized world due to the rapid development of technology, usage of social networks and new trends in communication sciences, many business institutions have revolutionized the strategies dealing with old, new and potential customers. These remarkable changes in information technologies have made it possible for businesses organizations to directly spread their marketing messages to any interested customer anywhere in the world.In the mean time the dynamic process of globalization has a grand impact on stimulating economic growth, improving quality of products, services and increasing a competitive environment among business organizations. The traditional way of dealing with costumers in this increased competitive work environment is not enough to be successful for today's institution and business organization. Many challenges face business organizations and institutions in the 21st century such as changing customer values and orientations, overpopulated society, political instability, environmental degradation, world poverty , increase of global competitiveness educational problems and job creation (Ahmed, 1993).

Many business organizations and institutions, especially those who are in service sector such as higher educational institutions are trying to identify the challenges in competitive environment regardless of their size and age they have to rethink their organizational processes and strategies, to be successful in the 21st century all higher educational institutions have to be strongly customer focused. Customer satisfaction is the indispensable part of a successful business (Wright, 2008). Understanding the customer needs and responding quickly to fulfil their changing needs and expectations is one of the Total Quality Management (TQM) basic approaches. For many HEI's the process of implementing quality standards means fundamental changes in organizational culture and in the leadership management approaches. The resistance of some institutions that have a long and strong institutional culture on fundamental changes in leadership management require a more open and comprehensive managerial approach with specific focus on identifying and satisfying costumer needs. Therefore the leadership management in higher education institutions require a fundamental way of thinking regarding designing and implementing new managerial approaches which will contribute to customer satisfaction , staff commitment and employee motivation . Therefore the role and the responsibility of leadership management is very important for successful implementation quality standards by all parts organization. The resistance regarding the implementation of total quality processes is stronger in higher educational institutions that have long institutional culture and in the essence they are more decentralized in management power as result of their multi functional structure. (Jauch, 1997) In addition the impact of customer satisfaction in small and newly established universities it may have a more decisive and profound role comparing with universities which have old institutional culture and traditions. Therefore reaching quality standards in higher

education is significant regard meeting the expectations of students, especially for newly established private higher education institutions. The main purpose of this study is to examine the student satisfaction in Albanian private higher education institutions

LITERATURE REVIEW

Today's students have more opportunities regarding selecting an appropriate university for their academic and professional development and they have the tendency to search for universities that provide a high quality of teaching, and the best student services along with affordable costs. They want to be sure when making important investment on their life such as choosing the right university for undergraduate studies. Therefore many HEI's are developing different management strategies in order to increase their organizational performance and quality in education .The use of TQM approach with specific focus on customer satisfaction has contribute on improving the quality of education and other services they provide (Koch, 2003). Below are listed some of most important strategic steps which HEI's have to follow in order to implement TQM in higher education (Ho & Wearn, 1995)

- *Obtain top leadership management commitment;*

- *Establish a quality steering committee and implementation teams;*

- *Assess the current quality system situation to identify all the existing good practices;*

- *Create a documented implementation plan;*

- *Provide training so that staff will be fully aware of the changes;*

- *Create and update quality management documentation; and*

- *Monitor progress as part of the Deming cycle (plan, do, check, and act)*

Nowadays, quality of service has received a continuous and increased attention from leadership management of many universities; especially universities are developing new strategies to measure quality with reference to student's satisfaction (Mark, 2013). Therefore many institutions are adopting new managerial approaches such as total quality management systems that tries to integrate all functional areas in an institution which is oriented towards increasing organizational performance and achievement by fulfilling customers needs based on continuous improvement philosophy (Deming, 1986) (Juran, 1989).

QUALITY IN HIGHER EDUCATION

It is very important to understand that the concept of quality in higher education and customer needs are constantly in an interoperable and multi-functional connection based on changing trends and ongoing processes socio-economic of development of society .This does not mean that we have to see students under the notion that customer is always right and definitely we should realize their demand (Spanbauer, 1995). It is not easy to have single unique definition of quality in higher education, in addition there is no universal consensus on how is the appropriate strategy to assure and manage quality within higher education (Becket, 2006) . Quality can be defined in terms of perfection, excellence, and value for money, fitness to purpose, or transformation (Harvey, 2005) . The quality in education is defined as a multidimensional concept with different components. Cheng, Y.C and Tam W.M suggest seven components of educational quality: goal, mission and vision, resource, input and outputs, process, students and staff satisfaction, legitimacy, absence of problems, and organizational learning. (Cheng, 1997)

According to some researchers the most important definitions of "quality" in higher educational system are as the following (Lewis, 1994) (Sallis, 2002) (Gibbs, 2010) (Flores-Molina, 2011):

Quality is fulfilling and exceeding customer needs.

Quality is everyone's job.

Quality is continuous improvement.

Quality is leadership.

Quality is human resource development.

Quality is in the system.

Quality is fear reduction.

Quality is recognition and reward.

Quality is teamwork.

Quality is measurement.

Quality is systematic problem solving.

COSTUMER IN HIGHER EDUCATION

The identification of the needs and expectations of customers is very important regarding success of HEI's. However most universities are unable to understand who the real costumers are because there are several potential groups that can be considered as customer in higher education such as inside group's which are academic and administrative staff and groups outside a HEI's such as students, parents, and those potential customers generally have different needs and expectations (Birnbaum, 2000) (Youssef, 1998)

Group	Customer Attributes
Students	Pay for service, receive educational instruction, administrative functions, purchase auxiliary services (lodging, food, etc.).
Parents	Pay for educational services, can be primary points of contact during some service interactions
Research Sponsors	Provide funds in exchange for information, service, or activities. Often have contractual arrangement
Governments	Provide funds for university to engage in service. Exercise some influence over service/ curriculum design
Society	Benefits from the services provided, pay (through taxes) for portions of the service
Future Employers of Student	'Purchase' the end product of the service process, sometimes provide funding and advise in service design.
Disciplinary Academic	
Communities	Benefit from scholarly activity of faculty members.
Accreditation Bodies	Exercise control over product/service design
Staff/Faculty Members	Control some of product/service design, consume some services

Table 1: Customers in higher education system (Quinn, Lemay, Larsen, & Johnson, 2009)

Besides all actual and potential customers in higher education system students are considered as the most important costumers (Owlia, 1996)

STUDENTS' SATISFACTION

The process quality insurance and academic accreditation requires a significant focus on students' satisfaction. Furthermore students' evaluation of educational services is an important factor that indicates the institutional quality of universities. Therefore student satisfaction has become a very significant issue for all universities and their leadership management since it is commonly used to indicate quality. However for many quality experts measuring student satisfaction at higher education institution is the biggest challenge of the quality management (Cloutier & Richards, 1994). Many researches findings indicate the existence of a perceptual gap between students' expectations and their actual experience of educational services in their home universities (Essam Ibrahim, Lee Wei Wang, & Hassan, 2013). As a results of competitive environment between universities there is an increasing tendency to be more focused on students evaluation, and to value those evaluation regarding quality improvement in higher

education system (Aultman, 2006). It is very important that the identity of students has to be reserved however others characteristics such as study program, gender, entrance years it is very important to be integrated in questionnaire for evaluation and statistical approaches (Williams, 2002).Furthermore is also important that results of students satisfaction questionnaire should be open to access with evaluation and possible attitude of leadership management regarding the steps that they have to follow in order to improve current situation (Leckey & Neill, 2001)

RESEARCH DESIGN & METHOD

The main objective of research is to understand the role of student satisfaction regarding quality assurance in Albanian private higher education institutions .For this reason a questionnaire that measure students satisfaction was developed on Likert five point scale.

The questionnaire was distributed to 300 students studying at four private higher institutions in Albania. Private universities were selected regarding their institutional age, accreditation and newly established status. The questionnaire adopted from SERVQUAL model (Parasuraman, Zeithaml, & Berry, 1998) was focused on topics such as quality of teaching, quality of academic staff, university social life and facilities and technological infrastructure of campus and the level of students satisfaction was determined by answers given to these questions. From Gathered responses from 264 completed and usable questionnaires were transformed to SPSS 20 statistical program for advanced statistical analysis.

FINDINGS OF THE STUDY

According to finding of this study there is a positive correlation between student satisfaction and perception of quality in higher education. Students are more satisfied with universities which they believe that possess a good quality.

Table 2: What is your study program?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Program Bachelor	216	81.8	81.8	81.8
	Program Master	48	18.2	18.2	100.0
	Total	264	100.0	100.0	

Table 3: Educational Services

	N	Std. Deviation	Mean
The campus staff is caring and helpful.	262	.956	4.39
This institution has a good reputation within the community.	264	.905	4.37
Department Secretary Staff is helpful and approachable	264	.918	4.55
I am satisfied with the technology infrastructure that university offers me	264	.775	4.62
I seldom get the "run-around" when seeking information on this campus	236	.985	2.93
Satisfied with the on-line library	264	.821	2.68
I feel a sense of pride about my campus	236	.757	4.71
I generally know what's happening on campus	236	.805	4.44
At the beginning of each course the subject's syllabus offers the necessary information for studying the course.	264	.956	4.47
Our lecturers offer consultation hours for students	264	.912	3.75
My university encourages debate with students when important decisions are taken.	264	.823	3.45

I am satisfied with the course curriculum my university offers	236	.931	4.11
The quality of my university is based on the books and teaching materials our lecturers use	236	.778	4.26
Lecturers use appropriate teaching methods	236	.879	3.90
My exam results are according to my knowledge.	264	.910	4.23
My university organizes cultural or sportive activities for us students.	264	.876	4.55
At the end of the semester I evaluate the lecturer of the course.	264	.790	.4.90
I am satisfied with my university	264	.901	4.65

Another interesting finding of this study is tending to associate the university success to their own success and to personal contribution. Only 69 % of students   associate the failure of university to their personal failure but 90% of students associate the success of their university to their personal success. Besides academic activities students value also the possibility that university gives to participate at professional and social in campus activities .In addition students perceived image quality in universities is strongly related quality of teaching and academic staff. As it is found in other studies students satisfaction is positively correlated to university brand image. (Mark, 2013)

CONCLUSION AND RECOMMENDATIONS

To be successful in this competitive environment universities are changing the traditional way of dealing with students to more students' centred strategy with main focus on student satisfaction. Today's students are luckier to select the most appropriate university for their academic and professional development , they have the tendency to search for universities that have positive brand-name and provide a high quality of teaching, finest student campus services along with an appropriate economic cost. Albanian private universities that are focused on reaching quality standards by having a clear strategy with specific focus on satisfying and exceeding student's needs and expectations have more chances to successes in this competitive environment. In order to have a good institutional reputation it is very clear for all universities to have a positive image of students' satisfaction and negative image of students' satisfaction has to be minimized.

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Reliable Measures of Concept Map Examinations

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ABSTRACT

The emerging capabilities of online educational materials are creating new challenges for faculty who use examinations to evaluate conceptual knowledge. This report provides an exploration of whether non-traditional concept map exams can not only mitigate some of the challenges, but can encourage students to organize conceptual knowledge, can be created quickly, scored reliably, and have many other desirable characteristics. An analysis of existing concept map scoring approaches reveals some useful variables and some variables with poor reliability and validity. Some new variables with excellent reliability and face validity are suggested. A software testing system called EasyMap was created for this exploration and is available for free to others interested in researching concept map exams.

Keywords:

INTRODUCTION

The emerging capabilities of online educational materials are providing new challenges to pedagogies that use online exams to evaluate conceptual knowledge. For example, some of the new search tools allow students to quickly search multiple educational materials for concepts, names, and phrases. A student taking a multiple choice exam could open an exam in one browser and the search tools in another, allowing them to very quickly look up many answers to typical multiple choice questions. This is not meant as a criticism of the tools that are being added to educational materials or that students should not be encouraged to use them, rather it creates concerns that multiple choice exams may not be ideal measures of conceptual knowledge when such tools exist. Of course, there are various ways to proctor students, but the cost is relatively high and alternatives are desirable.

There are many other attributes of exams that are important besides the concern described above. As a starting point, below is a list of the characteristics of an exam for conceptual information that may be important in pedagogy of online classes in higher education:

1. Enables instructors to efficiently create questions that are appropriate for higher education courses.

2. Requires students to have developed and to use well developed, well organized conceptual systems rather than simply report individual definitions, names, and facts.

3. Emphasizes core material but is sufficiently open-ended that students have the freedom to reveal the ways in which they have gone beyond the core or basic knowledge.

4. Rewards students who learn the technical vocabulary that educated individuals use.

5. Enables instructors to efficiently score exams.

6. Utilizes scoring procedures that students perceive as objective or at least very fair.

7. Produces scores that are reliable and valid measures of conceptual learning.

The literature on exams was evaluated with these criteria in mind. A number of researchers (e.g., Davis, 1993; McKeachie and Svinicki, 2010; Nilson, 1998) have described the strengths and weaknesses of various ways to evaluate conceptual leaning. For example, multiple choice exams have many problems: They are not open ended, good ones are not easy to create, in practice most emphasize basic definitions rather than organized conceptual systems, and many have questionable validity. In contrast, essay exams are very time consuming to grade, students see scores as very subjective, in practice they often do not reveal well developed conceptual systems, and they have questionable reliability. Similar analysis of other traditional testing approaches (e.g., fill-in the blank, matching, and short answer) indicates that none satisfy very many of the criteria listed above. However, a possible non-traditional approach that

may meet these criteria is to have students create concept maps to demonstrate their knowledge and understanding (Jonassen et al., 1993).

CONCEPT MAPPING

Generally speaking, a concept map is a 2-dimensional visual representation of a group of propositions or ideas displayed using simple polygons connected by lines. A proposition consists of two concepts (each displayed in a polygon) and a linking phrase (labeling the line connecting the two polygons). Concept maps contain many nodes and many connections (see Figure 1). Novak and Gowin (1984) proposed concept maps as a way to enable learners to represent concepts and their interrelationships. During the last 30 years, a number of researchers have studied the use of concept maps as a way to promote conceptual learning and have reported positive results. Although not a complete list, the disciplines in which the use of concept maps has been studied include Biology (Heinze-Fry & Novak, 1990; Schmid & Telaro, 1990), Chemistry (Markow & Lonning, 1998; Stensvold & Wilson, 1990), Geosciences (Rye & Rubba, 1998), Mathematics (Williams, 1998; Roberts, 1999), Medicine (Torre et al., 2007; West et al. 2000), Physics (Pankratius, 1987; Shymansky, 1997), and Psychology (Berry & Chew, 2008; Jacobs-Lawon & Hershey, 2002).
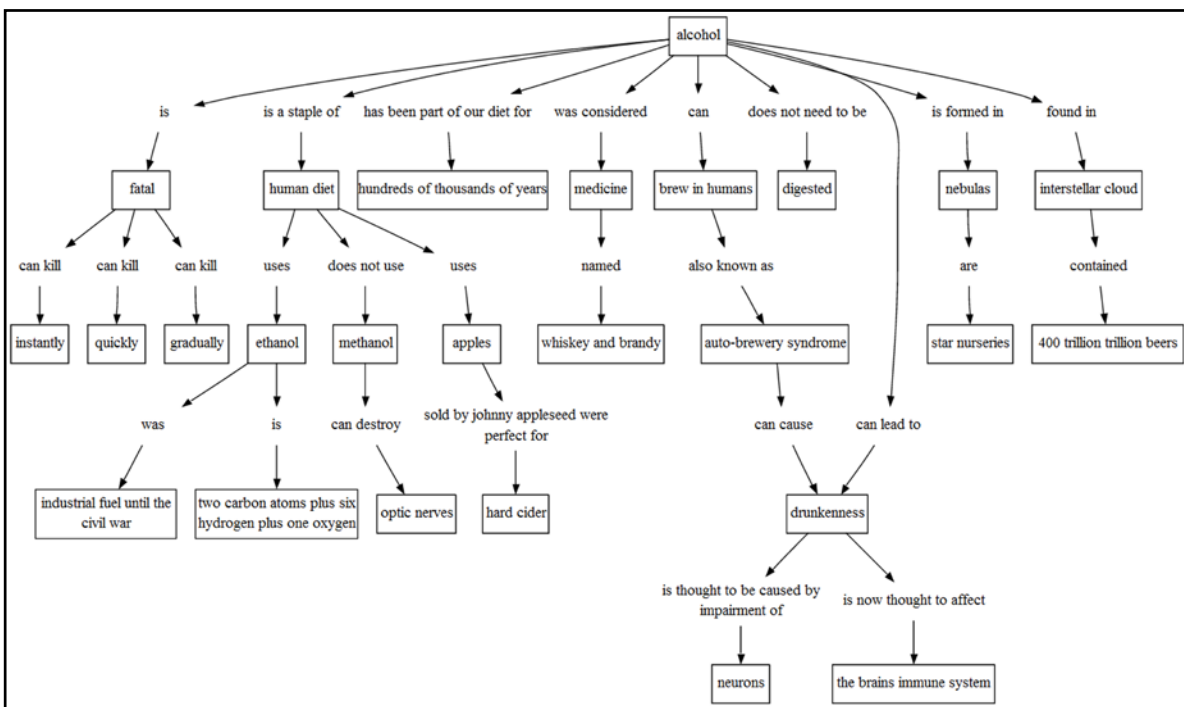
Figure 1: A Simple Concept Map Concerning Alcohol

The prompt for a concept map should be thought of as the topic of the map. It can be written such that a concept map exam would satisfy several of the goals (numbers below refer to the list of goals above):

- Prompts can be relatively simple, like those for an essay exam, and thus can be created relatively quickly. (#1)

- Prompts can explicitly encourage students to demonstrate their organization of ideas and concept maps appear to encourage at least some kind of organization. (#2)

- Prompts can encourage students to emphasize core ideas and still be open-ended. (#3)

A review of literature and some preliminary studies suggest that concept map exams may be able to satisfy the other goals listed above . Below, is a brief summary of the published research on concept map exams, along with a critique of some of the scoring systems used, and some suggestions for more reliable, valid scoring approaches.

SCORING CONCEPT MAPS

Surprisingly, preliminary research indicates that students should type ideas, not draw a map! Most of my colleagues who have had students draw maps have given up trying to grade them because they could not decipher the students' maps. In the literature, I did not find any studies with inter-scorer reliability coefficients above .60 if the

students created maps by drawing them (see review by Ruiz-Primo & Shavelson, 1996).

Concept mapping software presents one solution to the scoring problem. Some concept mapping software permits students to type a sentence in the form of concept | relation | concept. The software then adds the sentence to the map. Scoring maps created this way is much more reliable. In one preliminary study involving 152 students and 6 scorers, the reliability (measured as proportion of sentences scored the same) was .94 and in another study involving 24 students and two judges the reliability was perfect. Butler and Ring (2011) reported a reliability of .91 for an exam involving 35 students and three judges.

Researchers have reported that one important and highly reliable indicator of map quality is the number of non-redundant, correct propositions or ideas in the map (e.g., McClure & Bell, 1990; McClure, Sonak, & Suen, 1999, Novak & Gowin, 1984). These researchers report that the number of correct propositions is much more reliable than scores based on comparing a student map to an expert map or holistic ratings of maps. Some researchers have counted the number of concepts instead of propositions (e.g., Markham et al., 1994), but from a cognitive perspective, this level of analysis is too narrow as a measure of overall map quality. Kintsch (e.g., Kintsch, 1988, 1998; Kintsch & VanDijk, 1978; Van Dijk & Kintsch, 1983), whose work is the foundation of most comprehension models of reading comprehension, argues that the meaning of text is based on propositions—that is, simple sentences—not individual words.

Counting some words in addition to the number of correct propositions can provide a useful, reliable measure. The fourth criterion for exams listed above was to reward students who use the technical vocabulary that educated individuals use. Counting the number of important vocabulary words in a concept map not only encourages students to learn that vocabulary but it also encourages them to emphasize core ideas in their concept maps.

In their foundational work on concept maps in education, Novak and Gowin (1984) argued that in addition to the number of correct propositions, scores should include a measure of the depth of the hierarchical structure and the number of crosslinks in the map. However, there are problems with both of these measures. The problem with depth measures is that while hierarchies are common in many disciplines, some conceptual systems may be represented by students to include cycles (e.g., Krebs cycle) and or strong linearity (e.g., causal events) and such maps may not be very deep. Not surprisingly, research has revealed that scoring systems using depth of hierarchy are often associated with low validity (see Ruiz-Primo & Shavelson, 1996).

Cross-links are connections between branches of the hierarchy and are measured by counting the number of lines in the graph that cross one another. However, graph theory in mathematics shows that cross-links are not a valid scoring method. For example, Figure 2 shows three graphs, each of which has 6 nodes with each node having three links to other nodes. In the mathematics of graph theory, these maps are equivalent; that is, each could represent a concept map of 9 propositions. However, note that the number of cross-links differs greatly among graphs. Cross-links are a very arbitrary characteristic of a graph and when included in scores of concept maps, the result is low validity.
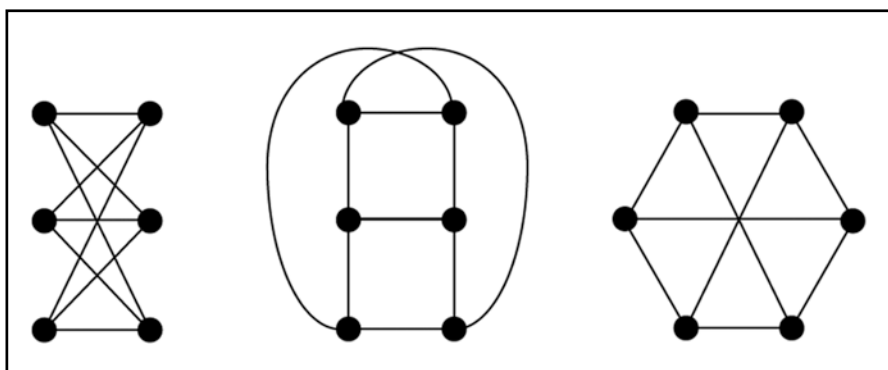
Figure 2: Diagram Illustrating Why Cross-links are not Valid Measures of Concept Maps

So what other characteristics of concept maps should scoring take into account? Given the list of exam criteria presented above, some measure of organization is needed. Furthermore, researchers have reported that under some circumstances, measures of concept maps that involve structure or organization can be more sensitive to learning than counts of propositions (e.g., Srinvasan et. al. 2008; West et al. 2002).

Graph theory in mathematics suggests a useful approach. If a student is asked to produce a well-developed, well organized concept map, there should only be one connected graph or tree in their concept map; in contrast, students who have trouble connecting ideas will have more than one graph or tree in their map. Thus, a useful measure of organization could be the number of disconnected trees in the concept map. However, it is important to take into account incorrect and inappropriate links because students can force ideas to link in illegitimate ways in order to appear organized. Therefore, a potentially more useful measure of organization is the number of disconnected graphs or trees in a map when incorrect and irrelevant links are removed.

There have been suggestions in the literature for other measures. For example, Kinchin (2013) has argued that different kinds of structures may be included in concept maps, such as chains and cycles and these may be important to kinds of knowledge being represented. However, at the current time, no specific measures have been suggested nor any procedure for reliably scoring these kinds of structures.

CONCEPT MAPPING SOFTWARE

There are many concept mapping software programs available. However, each of them has major drawbacks and none had the ability to score all of the variables described above. Eric Sanner, a programmer at nHarmony, Inc. cooperated with me to create a new Internet-based concept mapping program that would have the characteristics of the kind of testing system needed to conduct research. The software is called EasyMap. Over the past three years, usability testing, laboratory experiments, and field studies have provided some evidence that the system may be very useful in online courses.

CREATING EXAMS IN EASYMAP.

Prompts for concept map tests are quite similar to prompts or questions given to students for essay exams. For example, a simple prompt for a concept map exam could be: "Create a well-organized concept map about skin perception from a Psychological perspective. Your map should not contain more than 80 propositiions." EasyMap software lets faculty re-use these prompts in subsequent exams.

Research suggests some considerations in writing prompts:

- Both lab and classroom research indicates that the best prompts refer to material covered in about one or two chapters in a typical text book or a couple of weeks of class. When the prompt is too general (e.g., an entire course or text), students report that they do not have enough time to demonstrate what they know and report being overwhelmed by the task. If the prompt is too narrow (e.g., one section in a chapter), students cannot build an elaborate map.

- It is helpful to give some sample prompts at the beginning of a learning module so that students have clear objectives to guide their reading, note taking, and studying. Giving the students clear objectives has been has been considered best practice since Bloom (1956) described the importance of educational objectives.

- It is useful to limit the total number of sentences that students enter to create a concept map and include this limit in the prompt. Several in class studies have found that students who have studied can enter a sentence or proposition about every 35 seconds and create a well-organized map. Thus for a 50 minute test, a limit of 80 sentences reduces the amount of irrelevant material students include in their maps and avoids problems associated with assuming that a larger map is always better (Kinchin, 2013).

Along with the prompt, key words or technical terms can be listed. For the skin perception prompt above, some of the keywords could be meissner, merkel, ruffini, pacinian, thermoreceptors, and nociceptors. The software can automatically count these in a student's concept map using a fuzzy matching algorithm so students do not have to spell key concepts perfectly. However, because the fuzzy match will not catch all equivalent terms, the software allows a test creator to list synonyms with key terms. Thus the software would count either "TSD" or "Theory of Signal Detection" if they were indicated as synonyms.

In addition to the prompt and the key words, faculty indicate who else can score the concept maps (such as teaching assistants), the password students must use to access the exam, and start and end date/time.

STUDENT INTERFACE

Figure 3 shows the student interface once he or she has accessed a test. Note the prompt is at the top and right below the prompt are three boxes. Students enter propositions in the form of subject phrase | verb phrase | object phrase. Because some students have trouble stating ideas in this format, EasyMap does semantic processing to check what students have entered and the software provides feedback if the entry does not appear to be a sentence of this form. Figure 3 shows three possibilities for the sentence typed in the three boxes. A student can ignore the suggestions of the semantic processor or simply select one of the possibilities listed by the software. The software

adds the sentence to the map, connecting it to the existing map if the sentence subject or object matches an existing concept in the map.

All the sentences entered are added to the concept map (lower right) and to the list of entered sentences (lower left). By selecting icons next to a sentence in the list, students can adjust the relative position of the sentence object with sentence subject (above, below, or to the right) or they can delete sentences. They can search for words in their sentences and the software will display sentences containing those words. By selecting one of the sentences, the map will center on the searched for word. Students report this is useful when working on a relatively small screen. Also, students can control the amount of view space used for map and list and they can set the scale of the map.
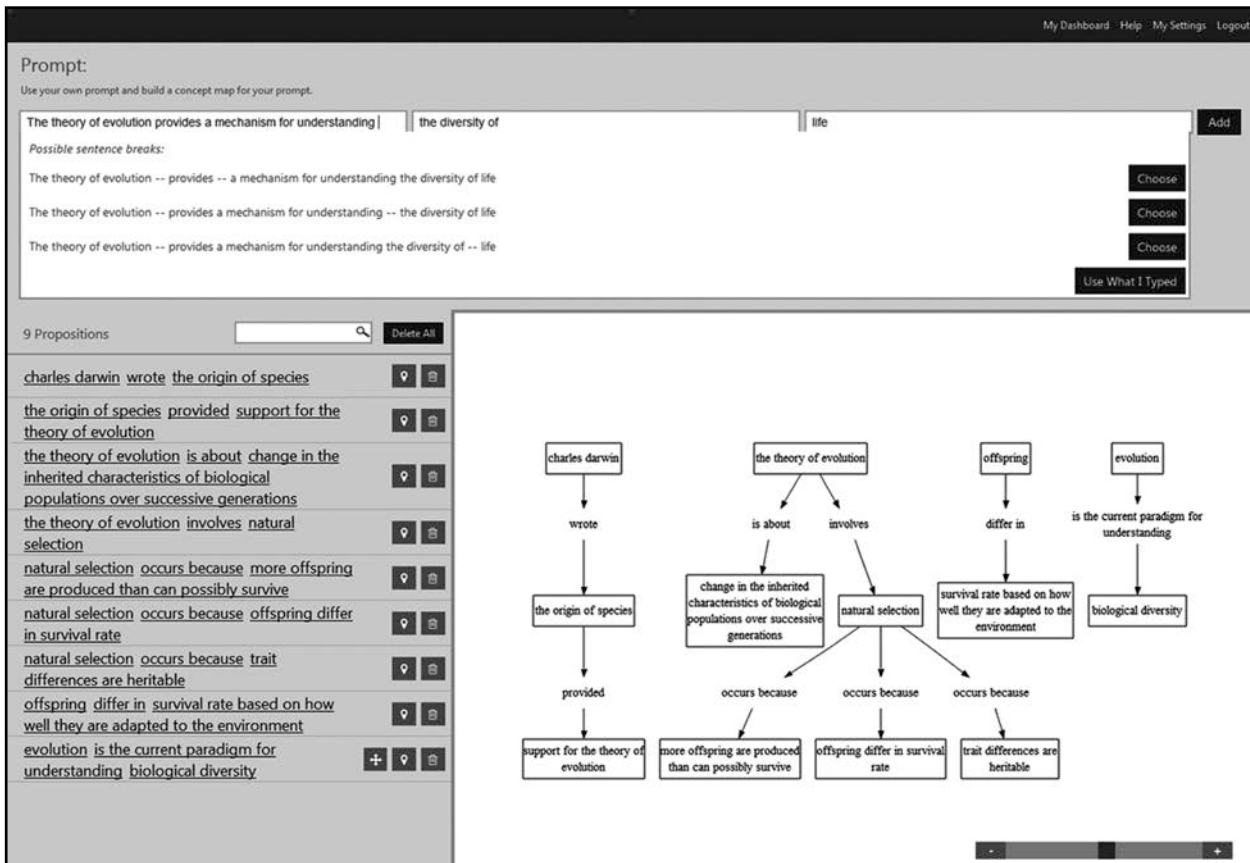
Figure 3: Student Concept Map Interface in EasyMap

When EasyMap was first created, students needed about a 45 minute introduction to use the software. Even with that amount of training, some students really struggled with the interface and many were still a little frustrated after several exams. Usability studies on the interfaces have led to improvements that have dramatically reduced the training time and the problems students reported. In these studies, students are given instructions and a short article from a magazine such as Discover. They are asked to build a map from the information in the article. Students are watched carefully and interviewed about pauses or issues with the software. In the most recent usability testing, students could create an account, go through the online instructions and create a basic map on the article in about 20 minutes. The nine students in the study were given the statement "I feel confident that I can use the software" and asked to indicate their agreement on a 5-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). The mean rating was 4.0 and no students disagreed with the statement. Some students in the usability study did have some difficulty organizing their ideas, but this seems to be more the result of the novelty of the task than an interface issue. When used for course exams, because the software is available on the Internet, students can practice using it outside of class time and quickly overcome its novelty.

SCORING EASYMAP EXAMS

Not surprisingly, the fewer options in a scale, the greater its reliability. A scale that has very high reliability (as measured by percent agreement among judges) is:

- Correct

- Correct, but redundant

- Incorrect

- Irrelevant

Adding two additional options to separate quality of correctness (e.g., correct but small problem or vague vs correct and incorrect vs incorrect, but not seriously so) lowered reliability from .94 to .82.

The EasyMap scoring interface is easy to use, facilitates very efficient scoring, and produces scores with very high reliability. Once propositions are scored, the software provides a screen view and exportable spreadsheet of the following variables for each student. All of these variables are machine scored except the correctness of propositions and all are highly reliable measures:

- Quantity

    - Number of Propositions (machine scored; reliability = 1.00)

    - Number of Technical Vocabulary Items Included (machine scored; reliability = 1.00)

- Quality (human score correctness; reliability > .90)

    - Number of Correct Propositions

    - Number of Technical Vocabulary Items Used in Incorrect Propositions

- Organization

    - Number of Disconnected Groups of Propositions Number of Graphs in map) (machine scored; reliability = 1.00)

    - Number of Graphs in map after removing incorrect and irrelevant propositions (machine scored; reliability = 1.00)

The variables can all be downloaded and weighted in a spreadsheet to create total scores for students. For example, it may be appropriate to use a weighted sum such as

+ (.9) * (number of correct proposition/maximum number of propositions allowed in prompt)

+ (.1) * (number of technical vocabulary items/max number of technical vocabulary items of any student in the class) –

- (.01) * (1 - number of graphs in the map after removing incorrect and irrelevant propositions).

Recently, I used EasyMap and this scoring system in a senior-level undergraduate class. Here are some of the comments received from students at the end of the course:

- "This course has been what I always thought college would be. But this is the first time I've experienced it and it is my last semester!"

- "I really prefer the kinds of tests you gave us. They make me study the way I should!"

- "I prefer essay tests over these new tests because I don't have to work as hard."

Interviews with the top students in the class revealed that they either made practice concept maps or elaborate outlines and made sure they could connect their ideas to prepare for all of the exams.

Although all of these variables have high content validity, detailed criterion-related validity studies on all of them have not been completed. Ley at al (2012) reported positive correlations between score on a multiple choice test and the correct ideas in a concept map test. Preliminary data is available for students in an upper division course who were asked to create three maps for each learning module in a class:

1st: a map before reading or attending lectures on a new module (max time 90 min.);

2nd: a map in-class after reading, attending lectures, and studying (max time 90 min.); and

3rd: a map at home with open book and open notes (max time 48 hrs).

A straightforward prediction is that students should be able to create more elaborate concept maps at each step in this process. Students would know the least when creating the first map making it the weakest. Once students

have studied, they should perform better. However, the best performance should occur on the third map because students can check other sources, look up information they are unsure of, and take advantage of a longer performance time. The correlation between the students' number of correct propositions and when they created the map was .79.

CAN CONCEPT MAPS BE SCORED QUICKLY

In a course during the summer of 2013, students completed three essay tests and three concept map tests. Students were given the same amount of time for each. All 6 exams were graded using the same rubric and a timer was used to measure how long each scoring session took. The grading approach involved counting the number of correct, non-redundant ideas (not including examples, trivial details, irrelevant ideas, etc.) and the number of technical vocabulary items used in correct propositions. Although the organizational variables in easymap are machine scored so they do not require a grader, they were not included because it was not clear how to do this for an essay exam. On average, it took five times as long to grade an essay exam as it did to grade a concept map exam. Furthermore, students stated that they thought the concept map grades were more objective than the essay grades (interesting given the same rubric was used to grade both).

While this finding indicates that the software is providing better speed of grading than essays, even faster scoring is possible in the future. Machine assisted scoring is feasible because the variability in simple propositions with the same meaning is not great, especially when compared to the variability of sentences in essays. The software can identify sentences that have been graded previously and can handle a certain amount of misspelling. The software could be adapted to handle synonyms and minor grammar variations of simple propositions to increase the number of propositions that could be computer scored. Scoring may be speeded up while raising confidence in the results by using a social network of scorers who teach classes that allow them to use the same prompts. However, it may be feasible to use artificial intelligence (AI). The general idea is to let the AI system build a knowledge base of simple propositions from relevant textbooks or other materials. The AI might also need some training on map scoring. Following training, an AI may be able to accurately score nearly all the propositions.

CONCLUSION

Researchers have reported that concept mapping is generally more effective for attaining knowledge retention and transfer than reading, attending lectures, and participating in class discussions (see meta analysis by Nesbit & Adesope, 2006). However, this research has emphasized using concept maps as a learning strategy rather than as a testing method. The research on using concept maps for exams suggests that concept map exams can be used to fulfill the list of desirable exam characteristics given provided at the beginning of this paper. There is still much to determine. However, more research on the validity of map scoring is needed. Can concept map exams be valid for graduate school students, upper division students, lower division students, and perhaps students at the secondary or younger levels?

The preliminary research is encouraging, but there is still much research to do. If you are interested in doing research with EasyMap, I look forward to communicating with you. The Easymap software is free for faculty.

ACKNOWLEDGEMENTS

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Sharing is Caring. Why do We have Barriers in Knowledge Sharing?

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ABSTRACT

Knowledge can be seen as an intangible asset which is unique, path dependent, causally ambiguous and hard to imitate or substitute. It grows and multiplies when it is shared, and these characteristics make knowledge a potential source of competitive advantage and, consequently, the target of managerial attention. However, barriers in knowledge sharing are commonly occurring issues in any knowledge management initiatives organization. Often they are manifested in different ways either from internal or external factors or from human to physical aspect. The purpose of this study is to explore what deters individuals from sharing and why it occurs in the light of teaching profession in the context of schools. A qualitative method is used to seek for the answers involving in depth interviews to twenty secondary school teachers. The analysis provides some evidence for barriers to knowledge sharing which were not restricted to technology but also included the social and physical environment of schools. Essentially it may enhance understanding of the complexities of knowledge sharing behaviour.

Keywords: Knowledge sharing, sharing barriers, teacher, school

INTRODUCTION AND BACKGROUND

Knowledge can be seen as an intangible asset which is unique, path dependent, causally ambiguous and hard to imitate or substitute. It grows and multiplies when it is shared, and these characteristics make knowledge a potential source of competitive advantage and, consequently, the target of managerial attention. However, barriers in knowledge sharing are commonly occurring issues in any knowledge management initiatives organization (Walsham, 2001; Riege, 2005; Evgeniou & Cartwright, 2005). Often they are manifested in different ways either from internal or external factors or from human to physical aspect. As knowledge management becomes more important, there is an increasing number of initiatives and studies of the obstacles to knowledge management. The impediments to knowledge management have been analyzed under a wide range of headings and suggest that problems in implementing knowledge management are substantial. Some researchers for example note the barriers as organizational, team/group, and individual (Jordan & Jones, 1997; Bollinger & Smith, 2001; Walsham, 2001; Peter & Scott, 2005), knowledge and power (Quinn, Phillip & Sydney, 1996; Walsham, 2001, McKinlay, 2002). Others categorize the pitfalls into behavioural, process and organizational categories (Evgeniou & Cartwright, 2005). Several other studies would prefer to classify as technology, cultural, content and structure (Chua & Lam, 2005; Adel, Nayla & Yasmeen, 2007), culture (McDermot, 1999), individual, organizational and technology (Riege, 2005; Tsung-Yi-Chen, 2009).

Knowledge and power, inequalities of status, and perceived lack of job security are some examples of potential knowledge sharing barriers (Reige, 2005). According to Walsham (2001), Foucault noted the inseparability of knowledge and power. Knowledge is linked to power due to its ability to make individuals influential and enjoy status in the organization. Individuals may be reluctant to share their views openly because they are concerned that sharing knowledge will reduce their job security, and they may be uncertain about the sharing objectives and the intentions of senior staff (Lelic, 2001). However workers who felt threatened by competition from colleagues might reduce their knowledge sharing. Conversely, employees might develop guilt if they refused to share their knowledge (Wang, 2004). At some point, lower and middle level employees would rather reserve their knowledge than share it with others, due to fear of not being promoted by their superior if they appeared to be more knowledgeable than them (Reige, 2005). This may happen with people who are operating in their "comfort zone" (Peter & Scott, 2005) or within the limits of their economic and psychological well-being and their social status.

Suzlanski (2003) similarly provides an example from the point of view of givers and recipients. People on the source side may hesitate to share their knowledge for fear of losing ownership, a position of privilege, superiority, the lack of sufficient rewards, or because they lack of time to communicate. On the other hand, recipients are reluctant to accept new knowledge from external sources, if they think it will bring threats or burden them. Other reasons could be; the inability to exploit outside resources of knowledge, which refers to the individual's absorptive capacity or the inability to retain the newly acquired knowledge within the organization. These in the end will increase the "stickiness" of knowledge sharing among members, and will more quickly impede managing knowledge in the organization.

Evgeniou and Cartwright (2005) highlighted the problem of "newcomer syndrome" in knowledge sharing. The good things about newcomers are generally that they are enthusiastic and likely to bring fresh ideas into an organization. Some of them are eager to try new theories and put them into practice. Certainly, they have good intentions and creativity but they maybe lacking the bigger picture whereby information can be abused, possibly unintentionally. New findings or outcomes could be a danger to the organization and jeopardize operations. On the other hand, individuals may not want to share what they know due to insufficient understanding of the benefits of doing so, or because they cannot manage to integrate such tasks into their experiences, or learn to use the available information systems. Some may fail to see a personal benefit from sharing their knowledge and also may perceive insufficient support from top level management to apply new ideas to their work (Carbrera & Carbrera, 2002). Another common impediment to knowledge sharing is time constraints (O'Dell & Grayson, 1998). Most people at work have restricted time due to the amount of work and tasks that they have to complete on a daily basis. This has become a very strong reason for their not spending time with others to share knowledge. As such, the time to share knowledge can be seen as a cost factor, if they are not busy doing something, they are perceived as not working productively (Reige, 2005).

Impediments to knowledge sharing can also be viewed from an organizational perspective. On an organizational level, barriers are primarily bound in the entire system of the organization. For example, some studies have shown that an open and flexible organizational structure supports the sharing of knowledge (Nonaka & Takeuchi, 1995; de Long & Fahey, 2000). Knowledge sharing seems less likely to occur in a highly structured, multi-layered hierarchy as compared to a flat organization structure, or focused on project teams where communication flow is not restricted in one direction (O'Dell & Grayson, 1998). Other studies postulate the lack of informal and formal mechanisms in sharing strategies in the organization. Some argue that people tend to share their knowledge in small and formal groups of people because they are self-contained and can discuss specific topics in detail. With this mechanism people have more responsibility to conduct and share their knowledge (Marinah, Ramlee & Omar, 2013). In contrast, knowledge sharing does not necessarily need to take place in a formal group to succeed, because many people can collaborate, share information and teach one another naturally in an informal environment. They have more freedom and no fear to express, talk about and share their ideas and thoughts when not in the presence of superordinates (McDermot 1999; McDermott, Carlin & Womack, 1999; McDermot & O'Dell, 2000).

Another aspect of organization which could become an impediment to knowledge sharing is culture. Culture refers to basic assumptions, values, norms, attitudes and convictions that people hold throughout their long learning process. Once individuals join any organization, they have to adapt to the culture of the workplace. The behavioural patterns that are encouraged, discouraged or allowed in an organization also reinforce a certain set of values. It is rare for an organization to have a single uniform culture because every person is exposed to a range of incidents and influences which reinforce or discourage certain behaviours and values. People who wish to belong and to be accepted will work towards acceptance and those who do not will just be ignored (Debowski, 2006). This is one of the reasons why in every organization a range of subcultures will emerge. These subcultures operate independently of the overall publicly stated culture, making it more difficult to build collective practices and processes. This is consistent with de Long and Fahey's (2000) study in which they concluded that subcultures often guide members to define and value knowledge differently and may result in miscommunication and conflict between groups or teams. Team members may be reluctant to share knowledge if they fear criticism from their peers or recrimination from their management. Sometimes group efforts tend to be subverted due to lack of respect, trust and common goals (Bollinger & Smith, 2001).

Lack of managerial direction and leadership are also a contributory factor to knowledge sharing limitation. It is a challenge to leaders to create a knowledge sharing environment where people may want to share what they know. A leader cannot expect people to share their thoughts and ideas just because it is the "right thing to do". They need to encourage subordinates not to hoard ideas, especially tacit knowledge, for fear of their being stolen (Reige, 2005). Giving incentives and recognition encourages people to share their knowledge. Based on this assumption some profit making companies introduce it as a criterion of performance evaluation. Even non-profit organizations may apply the same trend in their systems to function as a motivation for their employees. Some would argue (for example, O'Dell & Grayson, 1998; McDermott, 1999; Michailova & Husted, 2003) that the reward system rarely has an effect on

enhancing knowledge sharing because this process needs to be spontaneous. The use of encouragement, stimulation or incentives is inadequate in an environment that is hostile to sharing, due to the fact that these reward systems are intermittent and do not increase motivation for knowledge sharing in the long run. Another potential backlash of this kind of reward competition is when individuals or groups have developed a high degree of recognition; sometimes it can restrict new ideas or knowledge sharing across the organization, simply because of self-interest, conflicting goals or competing interests (O'Dell & Grayson, 1998; Michailova & Husted, 2003; Sayyed Mohsen Allameh et al., 2012).

Regardless of the size of firms, or of the type of technologies that they have, knowledge sharing practices will depend on information technology infrastructures which include numerous options of software and providers. Technology's role as an enabler is undeniable and it offers a lot of enhancement to support data capture, storage, retrieval, search, presentation, dissemination and reproduction. However, mismatches between software offered and employees' needs could defeat the purpose of having technology (O'Dell & Grayson, 1998). The decision to use types of software in the organization is determined by the top management, however, it would be the end users who have to deal with any uncertainty that arises from using the technology. This too could create tension because sometimes the software used is not user friendly, or not compatible. These problems occur when existing hardware and software components suited for one purpose need to be used in conjunction with another system or in another location. Although most people are eager to use technologies, the familiarity or unfamiliarity of the systems could hinder the user. People may be caught in confusion as to what technology can or cannot do (Reige, 2005). It appears that sometimes the existing hardware just cannot support the newly produced software. System crashes can be just as frustrating as they are time-consuming and expensive. As everyone is aware, technologies develop at a rapid speed and maintenance and systems upgrading require a lot of financial support. As a result, malfunctioning technologies will inhibit people from using them as a medium of choice in sharing knowledge.

Thus, it is the intention of this study to explore the impediments to knowledge sharing activity particularly among teachers. Despite the way that teachers saw the school as an environment open to knowledge exchange, there were negative aspects of the ways in which managerial, technological and cultural factors could act as a barrier to managing knowledge. Because knowledge is possessed by individuals, barriers come from them might be in terms of fears about other people using their knowledge and uncertainties about how they should behave when passing on knowledge. Barriers to managing knowledge partly reflect basic issues of management, technology and culture, but though some of the barriers fit well into the basic issues others are an overlapping or a causal effect from one issue to another.

METHODOLOGY

The purpose of this study is to explore what deters individuals from sharing and why it occurs in the light of teaching profession in the context of schools. By using a purposive sampling, a total of 20 teachers were selected to participate in this study. Respondents were selected from various schools in the state of Perak, Malaysia. The interview approach is used to gain insight into teachers' understanding, rationalizations and arguments on the barriers to knowledge sharing. The protocols are using semi-structured questions that help the respondents to focus in the issues of knowledge sharing. Background profiles of the interviewees were presented in Table 1. There were ten males and females respectively. Each of them has a vast experience in teaching ranging from six years to 32 years or working experience. The interview duration took place roughly from 60 minutes to 90 minutes per individual.

Table 1: Respondents Background

No	Position held	Working Experience (years)	Age	Gender	Duration (minutes)
1	Physical Exercise Teacher	9	32	Female	51
2	Senior Assistant (co curricular)	25	47	Male	78
3	Senior Principal	32	56	Female	90
4	Subject coordinator	32	56	Male	82
5	Language Teacher	5	27	Male	58
6	Head of Department	18	43	Female	65
7	Senior Principal	32	56	Male	75
8	Geography teacher	20	42	Male	55
9	Senior Assistant (Student's affair)	25	47	Male	63
10	Head of Department	6	32	Female	58
11	Religious study Teacher	13	37	Male	50
12	Principal	31	55	Female	70

13	Head of Department	18	45	Female	70
14	Language Teacher	7	30	Female	60
15	Science Teacher	15	40	Male	75
16	Geography teacher	10	38	Male	68
17	Subject Coordinator	16	40	Female	80
18	History Teacher	13	39	Female	60
19	Subject Coordinator	20	43	Male	62
20	Science Teacher	16	40	Female	65

FINDINGS AND DISCUSSIONS

Data from the interviews has revealed a few evidences showing how management, technology and culture can have a deterrent effect on knowledge sharing activity. Such barriers may exist in any working environment and constitute the pitfalls that arise out of various work pressures. Teaching as has been indicated involves high pressure activities in relation to getting through the syllabus. Students needed this for exams and these pressures could affect knowledge activities like sharing. The interviews data also postulated some emerging patterns which can be categorized as functional boundaries; technology and bureaucracy; culture and knowledge uncertainty.

Functional boundaries

Functional boundaries are likely perceived as barriers in knowledge sharing activity in knowledge management initiatives. Although the impact seems to be minimal yet it still contributes in its own way. The main barrier for functional boundaries is related to the use of space in a school's environment. It is a normal practice in schools that teachers are grouped or put together according to the department that they are attached to. Seating arrangement in staff rooms is quite important as it may affect the social interaction and knowledge activities among teachers. For those who are teaching more than one subject, they have the choice to be in which department they want. There is also a surprisingly strict degree of social structuring that occurs in staff rooms in terms of the patterns in which teachers sit together in groupings dictated by subject. This concentrates their communication within subject specialisms, but restricts wider interaction. This is important because staff rooms are probably the main area for social and work communication among teachers.

Nevertheless, the seating arrangement in staff rooms is basically not a mandatory administrative decision, instead it was an example of unwritten rule created by the school administrators for the convenience of the respective teachers. As mentioned earlier, seating arrangements may serve as a platform to teachers who teach the same subject because they might take the opportunity to discuss, learn and share information and knowledge. On the other hand, departmentalization may also create a functional boundary which in a way restricts the social interaction among teachers especially across subjects. Furthermore, teachers are always busy with their workload of teaching and administration work and being in a different room will not make things any better.

Similar to other schools, this school has a unique sitting arrangement where they are so compartmentalized. We are placed according to gender, seniority, position so everyone has their places or separate rooms. As a result, the teachers in the staffroom tend to feel clustered so they would choose to sit with their clique. In addition, when they want to speak or discuss with their superiors, these teachers would find it a hassle to go to their respective rooms or office and it disheartens them whenever the person is not there. So, they rather share there problems with their colleagues or person seated next to them, and these create limitations to knowledge sharing (# 8).

Thus, apart from having busy and tight teaching schedules, teachers have to abide by protocols and procedures due to the hierarchy of power. Individuals were seated according to their hierarchical position by locating them in a separate private room. This pattern continues reflecting the seniority, subject and peer segregation in the big staff rooms where the rest of the teachers were seated. Therefore, the effect of bureaucracy uses special arrangements to decrease the possibility of social interaction and knowledge sharing among staff.

Technology and Bureaucracy

Investing in a knowledge management system is indubitably expensive. However, due to the demand to accelerate information processes and knowledge driven, there is a great need for schools to comply with these changes. Simultaneously, schools need to intervene in order to control resource usage. This can create tension and inconvenience among users. It is a common feature for the public sector to be portrayed as being rigid, having lots of red tape and run in strict accordance with rules and regulations. In a management environment, bureaucratic and maintenance costs can be perceived as major obstacles. Most of the equipment such as the computers, notebooks and printers have a limited warranty period. Any expenses for repairs or breakdown of parts after the warranty period are usually borne by the Ministry of Education as well as the school. Computers that need to be repaired should be

sent to the registered computer vendors only. If the Ministry does not approve the computer vendor, payment cannot be made and it will delay the process. Sometimes because of red tape, even the registered computer vendors also had to delay their job.

As for maintenance of the computer our school appointed one particular company to handle it. According to the procedure they will do maintenance, service and repairs of the computers within 48 hours after receiving any complaints. However, it has been three months since our last complaints but they still have not turned up. The bureaucratic red tape to maintain the computers that usually take time and incur delays are disruptive to our work. On top of that, many of the computers are out of order leaving only 16 units that are usable (#5).

There were not enough computer rooms or labs. Then, the Ministry of Education gave us financial aid to upgrade our rooms and buildings to accommodate a computer lab. However, it is not as easy as it sounds, there is a lot of red tape and bureaucratic elements behind the scene. The next barrier was the expertise. It took some time to train teachers to be skilled in computers and activate the teachers to function the smart way. Then, just like other schools, in between, we had our core business and responsibilities such as teaching, co-curriculum and administrative work to complete which caused us to be quite exhausted by the end of the day. It is so frustrating for me as the ITC to see how things are going (#16).

Therefore it is interesting to see how technology is not perceived as always providing the positive impact it is meant to, but paradoxically it can be seen as a burden (Ramlee & Marinah, 2012). This seemed to be a dilemma for schools and teachers as the main users. Teachers were divided along the lines of using the technology and dealing with the constraints. Result form the interview data noted that *"lack of time allocated to staff due to workload"* (#19, #11, #7) appeared to be the greatest impediment to knowledge management initiatives. The effects of time constraints and workloads both directly and indirectly was observable for teachers and schools as a whole and was likely related to the implementation of technology (Marinah, Ramlee, Flett & Curry, 2011). Teachers' views on not being able to create and share knowledge run parallel with the argument of there being two main reasons behind poor knowledge sharing: structural and normative (Fullan, 2002). A study on perceived barriers to sharing by Andriessen (2006), for example, also noted "*pressure of time*" as the main structural barrier to sharing. The finding indicates that when employees were under pressure of finalizing their work, sharing was more likely to be postponed to another time or even completely forgotten, even though they seemed to be motivated and capable of sharing. From the survey in this study, evidence of *"lack of time due to workload"* was noted from time to time by the interviewees. This was either due to pressure from trying to meet the "*needs of the curriculum and the co-curriculum*" *(#1)*, the *"unfriendly system"* (#20) or *"to cater for different needs and tasks from higher authority" (#4)*.

The normative reasons behind the barrier to sharing refer to the norms and values of the respective communities of practice, and here the picture becomes more interesting. Teachers have many similar competences because every teacher undergoes a similar training, receiving the same curriculum and most likely using similar methods of teaching to deliver the subject content. Thus teachers' skills are relatively homogenous due to the basic work knowledge that they have and the working environment that they are in. Based on that assumption, each teacher was expected to know their subject knowledge, hence need not to ask or share unless it is necessary. As noted by the interviewees in this study, some teachers will only *help when they are asked to* and they *share knowledge when there is a request* from others particularly from their superior. Being homogenous is considered standard and normal in schools but if teachers wanted to be distinguished from others they have to have additional knowledge than the basic subject knowledge. In contrast with situations where expert groups that have different skills, they have to interact and act jointly to perform well in their job. In such situations of mixed expertise there is often a conscious effort to integrate their knowledge and skills so they can share and learn more (Carlile, 2002). The school setting in contrast produced not really strong awareness in teachers that they were required to share knowledge, might be due to the relatively homogenous skills and knowledge they held.

However, there is also some resistance or apathy to sharing among teachers, even though they knew how important knowledge sharing was in facilitating their daily work. To some individuals knowledge was a valuable personal asset that has to be protected not shared. It can be used as a tool to develop and upgrade a person's career or to show superiority among the communities of practice. So whatever knowledge is given or discussed it was not always the full extant of knowledge.

Sometimes, some people do not want to share any knowledge at all. If they do, they do not give one and hundred percent of it. We are teachers, we can tell, whatever knowledge that they shared are knowledge that is universal or just common sense. They don't want to reveal too much. This is because they probably want to protect their patent or idea so that they are more superior to others. This is human nature and it is beyond our control (#6).

The basic reason for this attitude of protecting their knowledge is fear that someone might steal their ideas. Sometimes knowledge can also be a shield to protect the individual from being mistaken as ignorant. Some would

have the notion that they will lose their knowledge if they let it out so it is better to be quiet. Others would think to avoid voicing their suggestions or ideas no matter how good for fear of being asked to do the job. Teachers can only feel that they are different from the rest of their colleagues if they have something different to offer for instance having different skills in a special area (Friehs, 2003). As a result it would secure their position and maintain their reputation among their colleagues.

The trend among teachers is that they do only when they are asked to; they help only when they are asked to and they share knowledge only when requested to. Not many teachers are willing to share their knowledge voluntarily unless they are unselfish. In this school, teachers do not confide in each other so they would use their own knowledge in their own teaching in class (#9).

However, this certainly does not mean there is no sharing activity among teachers. It only means that there are certain limits to knowledge sharing. They are also, after all, influenced by a moral injunction which sees knowledge as a public good. They may not want to be labeled as judgmental by their colleagues for not sharing their skills and experiences, when at the same time the school community is regarded as a close-knit unit that should be rather like a family. Teachers' hesitation about sharing might be due to fear of losing ownership, or to contain kinds of superiority or positions of privilege (Szulanski, 2003).

Knowledge uncertainty and culture

A majority of interviewees were trapped in the situation of knowledge uncertainty. A culture of uncertainty is about whether it was polite or acceptable to offer a solution especially in cases where they were junior or a new teacher up against senior teachers. For some reason they were in a state of apprehension which led them to be skeptical towards other parties over knowledge possessed either by themselves or others. This almost suggests an inbuilt assumption about knowledge that it has to be the right knowledge at the right time and provide correct solutions. Otherwise it is not "knowledge". These respondents were anxious about giving the "wrong knowledge" at the "wrong time" and an "incorrect solution" due to certain circumstances. Unlike in the case of altruistic behaviour, seniority was seen as part of this behaviourial relationship between junior and senior teachers. Junior teachers were more worried about their suggestions not being accepted due to lack of experience and being novices in the teaching profession. Junior teachers would feel inferior speaking in front of their seniors for fear of ridicule and criticism. As for the subordinates, they felt that their knowledge might be a "threat" either to themselves or their superiors. This was manifested in many ways as explained by these interviewees.

The junior teachers tend to be more reserved and careful even if they are more skilful and knowledgeable. This is because of our own undoing. The younger teachers fear that they may put off the senior teachers whenever they show new knowledge or skill. The juniors think that the seniors might get too upset with them for showing off just because they are new and fresh graduates from varsities. They are afraid that things could get worse when they produce good ideas that cause more work for the seniors. In this case, it is up to the ingenuity of the administrators to handle these juniors and control the situation (#12).

I am not sure if this is their natural way, faked or which teachers do not want to share their knowledge. In most schools there are two types of junior teacher. The first type of junior teachers are those who have just graduated from varsity while the others are the younger teachers transferred from other schools. Normally, the junior one would be treated as new, ignorant and young people who know book theories but lack experience. Their suggestions would be rarely heard or accepted. So they would rather be quiet no matter how much they think they know, except for a few bold ones who do speak up to be heard. While the second ones, are the quieter types or follow to suit the rhythm of the seniors without much questioning as they do not dare to rock the boat. They fear they might get comments like their suggestions might work in their previous schools but not in this school or that the suggestion is not the way things are done in this school. Such remarks dampen their spirits and put them off thinking further or give more suggestions (#15).

Data on reasons for not sharing knowledge identified some factors which may enhance understanding of the complexities of knowledge sharing behaviour. There appeared to be a tendency among teachers to sometimes resist or to be apathetic towards sharing knowledge although their members knew how important the knowledge was in facilitating their work. What made teachers fall into this trap appeared to be fear of criticism and feelings of insecurity about the value of the knowledge that they held. They were sometimes unsure about whether their contributions were important, accurate and relevant to the management and organization of their work. This seemed to lead to ambivalence towards knowledge and authority which occurred particularly in situations where the juniors or novices met senior teachers. This could be the problem of "newcomer syndrome" (Evgeniou & Cartwright, 2005) whereby juniors are eager and enthusiastic to put theories into practice and tend to forget that doing so can be very hard. As the interview data indicated, the senior teachers, who considered themselves as having advantages of experience and tacit knowledge, tended to prefer more concrete, reliable and workable kinds of knowledge, as against randomly

introducing fresh or regurgitated ideas. Hence, culture plays a role in influencing knowledge uncertainty between junior and senior teachers.

In this case, knowledge trepidation occurs as soon as individuals recognized their position or status in the social structure of schools. Knowledge becomes uncertain as a consequence of social status and of when and where knowledge could be considered as "right" or "wrong". Knowledge trepidation is likely to reflect a feeling of being "trapped" so much so respondents wanted to share their tacit knowledge but at the same time they often felt agitated in doing so.

CONCLUSION

Knowledge can be seen as an intangible asset which is unique, path dependent, causally ambiguous and hard to imitate or substitute. It grows and multiplies when it is shared, and these characteristics make knowledge a potential source of competitive advantage and, consequently, the target of managerial attention. Although sharing is portraying caring behavior but still there are myriad barriers to knowledge sharing across time and space. Barriers exist not just in the highlight of technology but also human and cultural aspect and simultaneously become potential levers of knowledge management initiatives in organization. Essentially it may enhance our understanding of the complexities of knowledge sharing behaviour.

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Using Web-Blended Learning In Ukraine To Facilitate Engagement And Globalize Horizons: A Pilot Study

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ABSTRACT

After two decades, Ukraine still struggles to establish consistent expectations and a research base of classroom applications to modernize distance education technology and pedagogies aligned with international standards. This report analyzes student feedback from a web-blended pilot class in the foreign languages teacher education program at Vinnytsia State Pedagogical University to identify factors that contributed toward student engagement and learning. The class used Skype technology to present guest lecture/discussion sessions hosted by international speakers. A free Google Education Application was used to provide access to instructional materials and conduct biweekly asynchronous forums moderated by local and guest faculty. Student feedback indicated increased engagement and interest in course content through ease of access, flexibility in scheduling, increased opportunity for self-expression and development of ideas, and exposure to varied perspectives. Students also noted issues with reliability of internet service, message load and time management, and made recommendations for improvement.

Keywords:

INTRODUCTION

Distance Education in Ukraine

Since achieving independence in 1991, the Ukrainian government has engaged in a continuing struggle to modernize education and align with international standards in technological delivery and pedagogies. In 2000, the Ukrainian President endorsed support for Internet access in Decree #928 (Alekseychick, 2001). Order No 293 of the Ministry of Education and Science (MES) in July 2000 created the Ukrainian Distance Learning Center at the National Technical University, Kyiv Polytechnic Institute "to create a viable system of post-secondary educational options throughout the country." (Shunevych, 2002; EdNU, 2010). This initiative was expanded on April 17, 2002 by Presidential Decree No. 347 "On the National Doctrine for Education Development," which "established a pedagogical experiment in distance learning," via a consortium of six universities. On January 21, 2004, MES issued Order #40 "On approval of distance education" formalizing distance education policies.

Ukraine joined the Bologna Process on May 19, 2005 (Education Portal, 2013), pledging to align the national system of education with the goals of the European Higher Education Area by 2010. One of the requirements was "the further development of distance learning," (MES, April 19, 2013). In 2005, the state program "Informational and Communicative Technologies in Education and Science in 2006-2010" was approved with the vision of "providing all Ukrainian schools and colleges with modern computer equipment … establishing special regional centers of distance education and local internet networks in universities," (Government Portal, August 12, 2005).

This flurry of initial government sponsorship appeared to dwindle for several years. Interest re-emerged in 2011, when "development of distance learning in-service training, [and] optimization of work plans by reducing obsolete forms of work and themes" was among ten priority areas for the coming year. "Training of teachers for informatics" was of particular interest (Government Portal, September 12, 2011). In 2012 and 2013, there was a significant surge in renewed government support for distance learning in Ukraine (Ministry of Education and Science: October 17, 2012; January 18, 2013; April 19, 2013; April 23, 2013; June 12, 2013; June 17, 2013). On April 25, 2013, Order No. 466 "On approval of distance education," updated and superseded the 2004 law with extensive definitional and logistical support.

It is difficult to arrive at a definitive portrayal of the status of distance learning in Ukraine. Despite a solid foundation of official government support, implementation has been sporadic and uncoordinated. Even the MES press release of June 17, 2013, acknowledged that "For many years in Ukraine there was not a clear idea of distance learning" and "different approaches to its organization in different schools," resulted in negative and low-grade examples that adversely affected public perception for this form of learning.

An Internet search yields as many as 30 claimants to research or practice in distance education, but this can be misleading. Many "hits" lead to sites with references that are outdated or without substance. Almost half of the sites listed on the MES Distance Education site (2013) are dead links, duplicates, or links to commercial software and news sites. Many courses or programs that are functional appear little different from correspondence courses or remote lectures and tutorials using broadcast television or Skype technology. Nevertheless, there are as many as eight to ten institutions significantly involved in exploring and implementing innovations in distance education. However, an online literature search yielded very few case study research reports on implementation.

Lack of funding remains a significant barrier, especially for smaller districts and institutions, spurring partnerships with foreign universities and even individual donors to develop distance education courseware and purchase equipment (Shunevych, 2002; Yamchynska, personal communication, March 2013). Other barriers include lack of faculty experience compiling distance education courses (Shunevych, 2002), as well as the psychological unpreparedness for technology-driven self-education (Klokar, Benderets & Borbit, 2011; MES, January 18, 2013). Lack of computer literacy, especially for older teachers, and a continuing shortage of adequate computer access limit implementation, especially in "remote rural districts" (Klokar, Benderets & Borbit, 2001, p. 94). Lack of standards contradictory expectations, and juridical issues pose additional impediments (Valiliev, Lavrik,& Lyubchak, 2007; Klokar, Benderets & Borbit, 2011; MES, January 18, 2013).

Distance Education at Vinnytsia State Pedagogical University

According to Oleksandr Shestopalyuk, Rector of Vinnytsia State Pedagogical University (VSPU) "Introducing technology into teaching is one of the most noticeable traits of great change that will take place in the future of Ukraine through today's changes in education" (Personal communication, 2013). As of January, 2013, VSPU had installed 900 computers, 50 of which were equipped with SMART Boards. The Department of Foreign Languages alone has three computer laboratories and five SMART Boards, all with access to the Internet. In AY 2012, the university launched the "Dean's Office" program for administration and record keeping. In accordance with MES Order No. 466 (2013), professors are now required to have an electronic variant of their handouts and tests, electronic manuals are being developed for student use, and professors and students have access to the Internet in the university library, as well as computer labs/centers.

According to Tamara Yamchynska, Dean of the Institute of Foreign Languages (Personal communication, 2013), "Instructors [at VSPU] are required to use technology, but not all are eager to quickly change their attitudes to teaching with technology." On the other hand, "many of them don't need to be required as they understand the potential of technology and its benefits for making the educational process more effective. It's getting difficult to be assigned to [a] room equipped with [a] SMART Board to conduct class because they are in demand among the university instructors."

On May 29, 2013, Protocol No. 11 of The Meeting of the Scientific Council of the Institute of Foreign Languages at VSPU formalized the strategic commitment to further implementations of technology in the educational process. However, economic constraints limit the pace and scope of this implementation as does the need to build a critical mass of support among faculty. According to Rector Shestopalyuk, "We would like [to focus] on integrating online teaching, developing all possible formats through international collaboration, which would become the leverage toward growth in the use of technology in our university." The web-blended class Teacher Preparation in U.S. Universities was "the first step on the way to enlarging the opportunity of international collaboration and integrating online teaching into the syllabi of our university" (Personal communication, 2013)

Using Technology as a Lever to Transform the Learning Experience

The use of communication and information technology presents a challenge to use "technology as a lever" to transform higher education through innovative techniques and engaging pedagogies unique to the opportunities (and demands) inherent to the technological environment (Chickering & Ehrmann, 1996). Following the *Seven Principles for Good Practice in Undergraduate Education* (Chickering & Gamson, 1987), these elements are:

- *Interactive contact*: Asynchronous communication technology offers immediate and flexible access for out-of-class contact, interactions, communication, and reflection, encouraging participation, especially among shy students. This can be particularly important when one or both parties is not a native speaker of English.

- *Collaboration:* The flexibility of electronic communication opens new avenues for distributing tasks to engage

and manage student collaboration.

- *Active learning:* Technological support can promote active learning through hands-on application in practice to simulate real-life tasks and the use of primary research links to enrich discussions.

- *Feedback:* Electronic communication, with built-in access to in-text editing and rubrics and templates, simplifying the provision of feedback and interactive tutoring through the development of multiple drafts.

- *Time on task:* Online learning allows students and teachers to schedule work at personally convenient times with reduced time spent physically locating resources, and more time to focus attention on critical tasks.

- *Communication of high expectations:* Technology makes it easy to post and access assignment directions, rubrics and scoring guides, as well as an extensive library of exemplars, so students can use them to gauge proficiency before submitting work.

- *Diverse talents and ways of learning:* Students who are progressing rapidly can move ahead; those who need remediation can receive it as needed. The wide variety of media and formats increase the ability to meet varied learning styles and preferences, which can increase engagement and comprehension.

METHODS AND PROCEDURES

For our pilot class, "Teacher Preparation in U.S. Universities," we chose a web-blended model to combine face-to-face instruction with a parallel sequence of online activities. We used Skype to add multiple guest sessions with four American university professors as co-teachers and a collaborative class session with U.S. teacher candidates, providing diverse first-hand input on various course topics (Friend, M., 2008). Skype sessions were accompanied by asynchronous forum discussions, with the guest speakers acting as co-moderators to continue the discussion beyond class, thus encouraging students to relate course topics to personal experience. Such cross-cultural exchanges opened new horizons contributing to a better understanding of educational issues and practices. It was equally important to create an English language environment as a venue for teaching English through oral and written communication with native English speakers. The authentic application of conversational and written English in class discussions served to reinforce the authenticity of subject matter presented by the invited co-teachers as pedagogical experts or teacher candidates actually involved in teacher preparation in U.S. universities.

The pilot class was comprised of 78 students divided into three sections. This conforms to usual course structures at VSPU, with a large lecture course and smaller recitation groups. Originally each section was meant to have its own questions, with the overall discussion record visible to the entire class. However, in practice, the students treated the schedule of questions as an open menu to which they responded cafeteria-style, choosing and participating in the questions that most interested them. Participation in lectures and forum discussion was valued at 65% of the course grade with a minimum expectation of three posts per forum topic. The remainder of the final grade was divided between a mid-term test and various written assignments.

The class was set up using Google App engine with Java runtime. This is a free program with a message and broadband quota that is reset daily. The daily limit was only reached three times in the entire semester. A freelance computer technician was recruited to set up the class, which took about two months of "spare time," including Java development. This technician continued through the semester as web administrator, which required little ongoing commitment, since no additional design features were required.

Student perceptions regarding the format and effectiveness of the pilot class were collected using five open-ended student evaluation questions posted in the class forum:

Q1 - What did you like most about the online discussion format (the discussion itself, not issues of access or scheduling)?

Q2 - What did you like least about the online discussion format (the discussion itself, not issues of access or scheduling)?

Q3 - What did you find convenient about using web-blended learning techniques? Did this process enhance your understanding of class topics?

Q4 - What was awkward or difficult about using web-blended learning techniques? Did this process hinder your participation in class discussions?

Q5 - What would you add, subtract, or change in future applications of web-blended learning at VSPU?

RESULTS

Responses were analyzed using the constant comparative techniques of grounded theory as described by

Creswell (2009) and Strauss and Corbin (1998). Verbatim responses were copied into a Word file and non-substantive posts (duplicates, corrections, thanks, etc.) eliminated. This resulted in 59 valid respondents for at least one question, resulting in a gross response rate of 76%. Each response was analyzed to determine irreducible content units, which were open-coded and sorted to re-group content units and eliminate repetition for any one respondent within a given prompt. This resulted in 660 total content units. For the valid respondent portion of the class, the number of responses per student ranged from zero to 26, with a mean frequency per student of 11.2.

During initial coding, it became obvious that some units were posted under a question to which they did not apply. These were re-grouped under the appropriate prompts and set aside for later analysis. Axial coding was used to group the original 660 units of analysis by similar content, collapsing the number of discrete response types to 153. Selective coding was used to collapse the axial codes into a small number of conceptual blocks per question. Once again, some blocks were moved to better align responses with the prompts and after consolidation of content units by prompt another nine redundant entries were eliminated. The final grouping included 6 categories each for Q1 and Q3, 5 categories for Q2, 9 categories for Q4, and 8 categories for Q5.

Positive Factors (Q1 and Q3)

Figure 1 shows a graphic comparison of the number of content units identifying elements of the web-blended experience that they "liked the most. The factor students cited most frequently was interaction with students and faculty (67 responses) especially the opportunity to interact with American professors (25) and several aspects of web-blended discussion as a platform for expression (26). The second-most frequently identified element that students liked most was related to course work (56 responses), with an almost equal split between elements of format that facilitated learning (29) and favorite content topics (27). Students mentioned in particular that they liked the online lectures (6) and they especially liked the fact that they were lectures by American professors (5). Half of the content-related comments focused on general utility and interest of course content.

Figure 1. *What students liked most about the online discussion format*
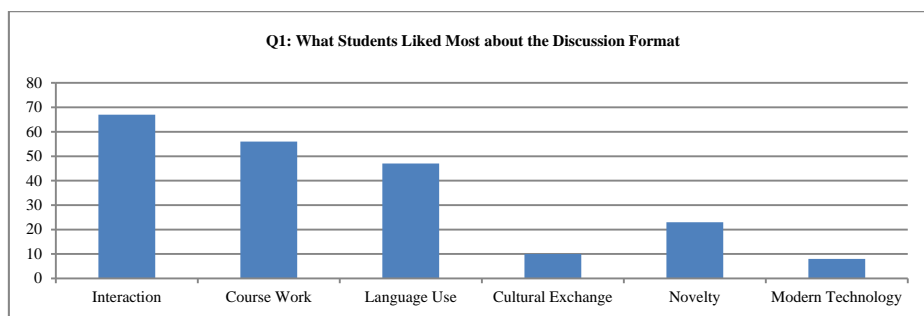

Students also identified the potential of web-blended discussion and Skype lectures to practice language skills through first-hand use (47 responses) and participate in cultural exchange (10) in ways not possible in a traditional face-to-face environment. The importance of such interaction is probably underrepresented in this analysis, since many elements attributed to other categories could probably just as well fit here. The last two elements that students identified as ones they especially liked focused on novelty (23 responses) and the use of modern technology (8).

A graphic summary of positive comments attributed to the web platform or pedagogical structure of web-assisted learning is presented in Figure 3. Almost half emphasized ease of access (67 responses), in particular "anytime convenience" (31) and the ability to "work at home" (17). Access to course materials was also considered a major asset (14). The most commonly cited benefits to time management were "saved time" (9), and the ability to work at home (4). Twelve students cited the opportunity to practice technology applications and model technology for future use. Another major group of responses targeted the ability of students to engage with learning (43) and broaden its scope (14) beyond the confines of a traditional classroom. This broadening was attributed to more time to think (13) and express oneself fully (4), integrating learning with in-class lectures (3), stimulate thinking and learning (6), exercise choice (6), and express oneself freely (7).

Fourteen respondents emphasized the ability of an online platform to open horizons and increase the scope of what was available for learning. Web-bended learning was credited with the inclusion of more points of view (7), in particular, through online lectures with American professors and the opportunity to talk with American students.. Five students mentioned that the availability of timely and continuing assistance from the co-instructors of this course was convenient or an enhancement to learning.

Figure 3. Structural elements and techniques that students found convenient or enhancing to learning.

Q3: Structural Elements that Were Convenient or Enhanced Learning
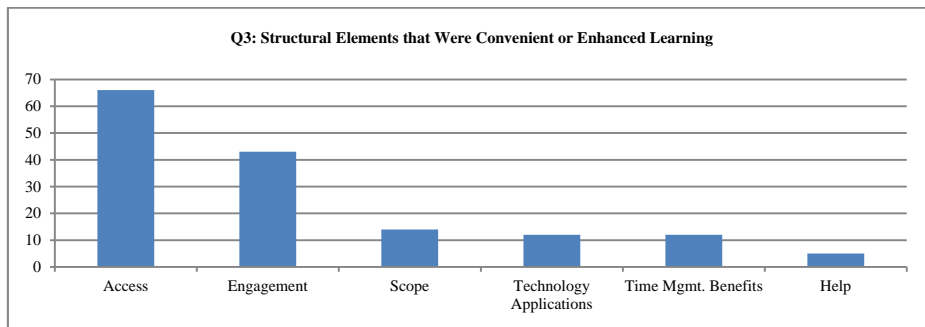
Negative Factors (Q2 and Q4)

Negative responses addressing class interactions and the discussion process format were consolidated under Q2 (see Figure 2). What students least liked about the online discussion format was the message load (39 responses), with complaints about too many messages (8), repetition (20), and the challenge to think of new things to say (11).

Figure 2. What students liked least about the online discussion format (not issues of access or scheduling)

**Q2: What Students Did Not Like about Discussion Format**
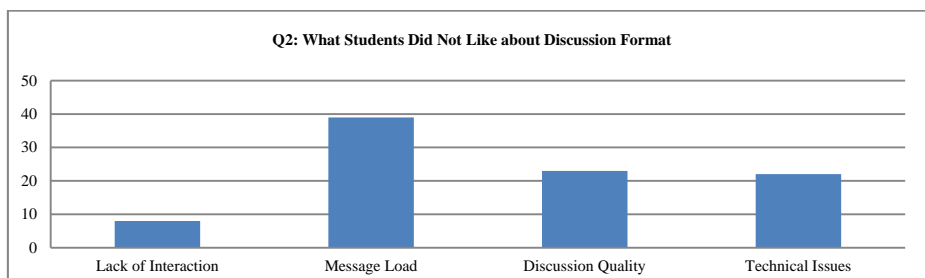
(Note: One student indicated that there were "no drawbacks." .

The second largest group of negative responses referred to the quality of discussion, including disdain for using the Internet as a ready resource for information (7), which was regarded as "cheating" or "unoriginal." Others cited lack of substantive content in student posts (5) or copying from other students (1). Five comments blamed the grading system, which was perceived to favor quantity over quality and one student linked poor discussion quality to group size. Two comments declared discussion questions were" too concrete" or involved "too little preparation." Other technical issues (22) included the inability to edit posts (8), character limits (2), lost messages (5), and inadvertent duplication of messages (3). Two student comments cited inability to organize and direct replies.

Responses that identified negative experiences with access or scheduling were consolidated under Q4 (See Figure 4). Most of these were related to time management (12 responses) and access (37). Access included poor connection quality (16) lack of Internet access at home (10), and intermittent problems with the course site (7). Eighteen responses focused on technical issues with forum discussions, personal responsibility, and the inconvenience of scheduling Skype across eight time zones (5). The most common comments about discussion access were the perceived insufficiency of two weeks per forum (13) and time lag in asynchronous discussions (4).

Figure 4. What was awkward or difficult about using web-blended techniques, hindering participation?

Q4: What Hindered Participation?
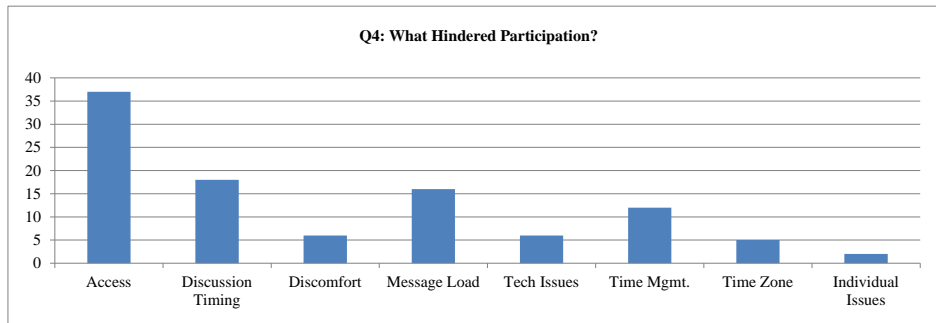
(Note: Two students indicated that there was nothing they would recommend changing.)

Some aspects of the discussion format were addressed both as pedagogical concerns under Q2 and as platform issues under Q4, such as message load (6) leading to challenges to originality (8). One student commented on difficulties posed by excessive off-task posts. Message duplication (3) and frustration with character limits (1) were cited as well. Repetition of messages, loss of messages, and the inability to edit were not mentioned as technical issues.

A small number of respondents simply found the online format uncomfortable (5). Some of the discomfort was due to unfamiliarity (3), and two students were reluctant to take part due to shyness. One commented that "it was really hard to be active in front of teachers from America and another declared that it was "quite uncomfortable to do 90% of work on-line."

Changes Suggested by Students

Figure 5 presents a graphic summary of changes suggested by students to improve the use of web-blended applications in this course or in general across the university. The largest group of comments was directed toward the inclusion of more contact with Americans (34 responses), both with professors (12) and fellow students (22). Fourteen respondents specifically wanted to add American students to online discussions. Suggestions to improve discussion forums included reduction in group size (14), more time per discussion (3) and limitations or rules to regulate frivolous or copycat posts (6). Several technology tweaks were suggested, including expanding the character limit (5) enabling editing of posts (2) and threading of topics with the addition of a "reply" function (2).

Figure 5. Suggested changes to future use of web-blended learning at this institution.

Q5: Suggested Changes

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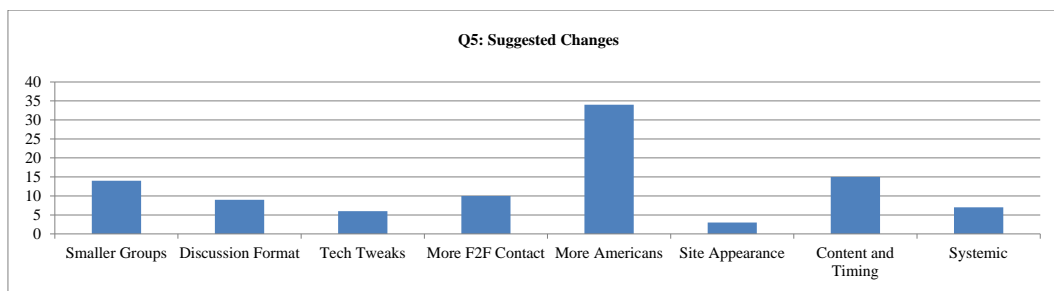
A minority of students suggested more face-to-face contact (10), though not necessarily at the expense of online interactions. Some these included the incorporation of more face-to-face discussion via Skype with American professors and students, in particular as a way to practice and improve oral language skills. It was also suggested that this class would have more relevance and impact if it were scheduled after field practice rather than before (2). Several content changes were requested (10), including more online lectures, lectures that were "more informal," and more cross-cultural topics with more focus on U.S. universities and "activism." One student requested training in time management. The last block of suggestions transcend the scope of this course to general application of web-blended experience in other contexts and recommended changes in the program of study at VSPU.

RECOMMENDATIONS

Student feedback from this pilot study was very encouraging regarding the popularity and potential for web-blended learning. Positive comments outweighed negative ones by nearly two to one (l.85:1). Some of the feedback from students provided surprisingly insightful guidance on improvements to the basic structure. We concur that it would be productive to adjust group size for forum discussions to reduce message load and establish rubrics to improve quality and professionalism in message posting. Increasing character count, improving uploading protocols, and the incorporation of message threading, would make forums more user-friendly and flexible. However, major changes to class infrastructure would require a commitment to a more robust delivery system. Many freeware options, such as Moodle, are commonly available in Ukraine, but any move to a larger-scale learning management system would require an institutional commitment to maintain a dedicated technical support staff.

The students highlighted inconsistencies in quality of forum prompts, both in their feedback and in practice. Because they were allowed to choose which forum prompts to address, they responded to those that interested them and largely ignored some others. This "natural selection" pressure had the fortuitous effect of highlighting and effectively eliminating several questions that were generally ineffective for open forum discussion because they were too closed-ended. Forum prompts must be carefully crafted to make them open-ended and engaging.

Traditional academic culture at VSPU is very teacher directed, relying heavily on formal lectures and close instructor supervision. The web-blended format allowed a (perhaps false) illusion of independence, which was not always conducive to self-discipline and responsibility. Time management and motivation became serious issues for a few students. It would be worthwhile to invest some time and attention to training students and faculty in time management strategies to improve efficiency and self-discipline in online work. Students should also be trained and encouraged to use the connectivity of the Internet to illustrate, footnote, and otherwise enrich their discussion responses; it is not "cheating" to use hypertext and creative web references to create more authoritative responses.

We are very grateful to our American partners for their time in helping to develop this course and to volunteer their time as guest lecturers and discussion moderators. While we recognize the undoubted value of increasing the number and frequency of such interactions, there are many practical limitations that make that difficult. None the less, it would be valuable to find and utilize every opportunity to foster cross-cultural communication between our countries and educational systems.

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