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PERCEPTIONS, MOTIVATING AND IMPEDING FACTORS OF COURSEWARE DEVELOPMENT IN NIGERIA

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Abstract
This paper is based on an in-progress project to detect challenges in the early stages of courseware development. An understanding of the perceptions and factors that motivate or impede faculty in the development of online course materials for their various undergraduate and diploma courses is to address and strengthen courseware development. The initiatives have been taken in the area of open courseware development for all undergraduate studies and the postgraduate diploma in education, PDDE at the University of Ilorin, Nigeria that is a pioneer in this regard in the country. A pure quantitative method using descriptive survey approach was adopted. Questionnaire was used for data collection. A test-retest reliability was embarked upon to determine the reliability of the questionnaire. A statistical package for social sciences (SPSS) was used to analyze the data and method of analysis included: percentages and frequency count. The findings reveal factors hindering faculty contribution to courseware development to include: lack of experience or orientation on courseware development, lack of motivation for faculty, lack of familiarity with courseware, etcetera. Adequate technical support is necessary for the lecturers to continue courseware development smoothly.
Keywords: open access; open courseware; institutional repositories; courseware development; developing countries; Africa; Nigeria

INTRODUCTION

The development of Internet technology has created enormous opportunities to bring the results of research to all through digital communication – to anyone, anywhere and at any time. The impact of the convergence of traditional modes and new technology makes it possible to access information conveniently and instantaneously. By "open courseware" or "courseware development" much like "open access" in this literature, refers to course or teaching materials freely available on public internet, permitting any users to read, download, copy, distribute, print, search or link to the full texts of these course materials and associated links, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal or technical barriers other than those inseparable from gaining access to the internet itself (Budapest Open Access Initiative, 2002). Thus, open access may be defined as a philosophy to achieve the goal of accessing and making digital material, which may or may not be free from copyright and licensing restrictions, available free of charge for those who need it for scholarly purposes.

Though the philosophy of open access emerged in the context of scholarly publishing and communication, over the time the onus has come to be placed on the authors, wherein emphasis has been placed on the firm commitment of individuals to make open access successful. The development of open source is to fulfill this commitment. Various forms of open access have been evolved. Open courseware plays a significant role in open and distance education. For instance in the United Kingdom, the Open University has already opened its courseware from as early as the year 2006. A country very similar to Nigeria, India, its Indira Gandhi National Open University (IGNOU) had taken up a project e-Gyankosh where all the courseware developed by the university was being placed in an open access repository online to facilitate wider accessibility. In the context of those countries where access is hindered by economic constraints, all these developments are quite significant. The development of free and open source software packages, such as DSpace and EPrints, is facilitating access to all kinds of material irrespective of scholarly publication.

Wikipedia describes courseware as a term that combines the words 'course' with 'software' and at its inception was used to describe additional educational material intended as kits for teachers or trainers or as tutorials for students, usually packaged for use with a computer. However, over the years courseware has included in some cases the entire course, materials used for teaching, tests, lessons, objectives of topics, references and web links to literature on the course and all other associated materials made available online in a single bundle or product. The courseware itself can be in different formats, some are only available online such as text only, html pages, while others can be downloaded in pdf files or other types of document files such as with video, audio and hypermedia integration for learners to visualize and articulate. The courseware is a tangible product that can include myriad products, multi media such as Web pages, video clips, packaged readings, animation, and simulations that together create a package that is tangible and marketable. Many other forms of e-learning are now being blended with term courseware. Close related concepts are other categories of educational software, classroom management software, classroom aids – electronic blackboard, virtual learning environment (VLE) and learning management system (LMS).

Pinfield, Gardner and MacColl (2002) report that e-print archives and self archiving institutional repositories are all initiatives towards open access and that the courseware as an online repository of materials made easily available on the web for the widest possible dissemination of knowledge is not without its difficulties, challenges particularly frustrations of courseware developers. At the Massachusetts Institute of Technology (MIT), for example, Open Courseware (OCW) is a major successful project that provides free access to around 2,000 courses. Its philosophy is to bring MIT education to the doorsteps of learners who are not fortunate. Universities from developing countries and Nigeria in particular need to be evaluated as to why they have either not explored this option of open courseware development or why progress in this drive is so slow. What are the perceptions of faculty of courseware development? How motivated are faculty for courseware development? These and other questions will be addressed in this study.

Making a success of open courseware development by universities in Africa, developing countries and Nigeria is paramount because of the advantages of courseware development as can be gleaned from literature on successes from other climes. There are the challenges of growing number of undergraduates in institutions in Nigeria and distance learning, an option. Open courseware is also complimentary of face to face teaching, tradition methods of training in Nigerian universities. The open access concept has now expanded to include the area of learning resources, through Open Courseware (OCW). Open access is a cost effective way to disseminate and use information. It is an alternative to the traditional subscription-based publishing model made possible by new digital technologies and networked communication (Association of Research Libraries, 2004). For the developing world, the open access movement has come as a boon. Courseware development makes it easy for faculty to post and share a syllabus or other documents, create homework turn-in areas for students, return homework to students, offer quizzes and surveys, and provide forums for online discussions. It also provides for “one-stop shopping” courseware experience where faculty can see and access all course-related tools and resources together in one space. Institutions promote open access to the research work carried out by them through establishing institutional repositories. These are digital archives of intellectual products created by the faculty, staff, and students of an institution and accessible to end users both within and without the institution, with few if any barriers to access. Institutions may act independently or within a state or regional consortium (Association of Research Libraries, 2004).

However, there are several issues challenging open courseware development. With the advent of the Internet, and in particular the capabilities of the World Wide Web (Web), issues of intellectual property have once again become the basis for discussion and debate. One of the most interesting and complex an issue of intellectual property in the digital environment is faculty ownership of online courses referred to as courseware. In fora where the issue of ownership is discussed, very strong opinions come forth from both the administration and faculty on whom should hold copyright and each constituent group makes it clear they are concerned with protecting their investment in the final product (Carnevale, 1999).

Recent developments in Information and Communication Technology systems offer new capabilities for the delivery of instruction throughout all educational settings. At the moment universities are exploring ways of providing flexible learning systems that will meet the ever-increasing demands of a complex and diverse student group. Moreover, in cases where the number of students has increased dramatically without an analogous increase in teaching staff, or in cases where universities in different countries are offering collaborative degrees, the employment of modern technology for teaching and learning is seen as the only way to maintain and promote the quality of the instruction. The thinking of institutions is to provide distance learning (DL), online distance learning (ODL) and life-long learning. This paper forms part of a much larger study of ways of achieving these objectives. The broader study seeks to determine the factors that motivate or inhibit faculty in courseware development as use of ICT has become the trend in tertiary education. There is the wish to increase and to speed up academic and social integration of faculty to their new learning environment in Nigeria. From observation there are difficulties and frustrations amongst faculty and courseware developers owing to technical problems, etc. Literature appears to be rife with studies on students and technicalities of technology but very little on how faculty can be motivated to overcome inhibiting factors to courseware development (The Node Learning Technologies Network, 1999). This study will examine the proactive motivation of lecturers prior to the course start and the problems they encounter in the design and development of courseware for their courses across disciplines.

The traditional hard copy course outlines as an exclusive tool to support teaching is not without its shortcomings and challenges some of which is a period of time between the student enrolling on a course and receiving the course materials mostly becoming available to students at end of the course or never at all. In any case, there are delays in the provision of course materials to students. Unfortunately this delay may often be caused by course revisions, essential to keep the course materials current. In others, the course outlines and materials are not reviewed from year to year (Twigg, 2000). This becomes more challenging in the phase of distance learning and the options provided by internet technologies more auspicious to make course materials available to students online.

The advantages of the courseware are in the proactive contact by the lecturer, with reactive action where problems are found, by both lecturer and the students thereby resolving the problem of not being able to contact the course lecturers. This combination of proactive and reactive contact set up the students to receive regular bulk emails throughout the course. This provision is in addition to peer and lecturer support via the discussion forums in our electronic forums. However, from observation and review of related studies (Carnevale & Young, 1999; Twigg, 2000; Pinfield, Gardner & MacColl, 2002; Hickey and Davies, 2003; Kasirun, 2005) courseware development has been abandoned by faculty in many cases as a result of time consuming processes of design and development, low perceptions of courseware development by faculty, little or no training of faculty in design/development of courseware, absence of motivation, copyright and ownership issues and fears held by faculty, lack of studies on faculty perceptions and requirements to meet open courseware development to name but a few which this study will analyze.

This study will help assist in the understanding of faculty perceptions of courseware use and factors that motivate or impede its development and outcomes will support in the execution of a courseware development according to faculty teaching beliefs and values. Lastly, this study will assist the goal of the university to improve teaching and learning experiences by development and use of courseware.

Open Courseware Development in the University of Ilorin

The reason for the choice of lecturers of the University of Ilorin, Nigeria as target population for the study is because the University is not only a pioneer in this regard but also a leading institution in the country in recent years. The university is also a federal establishment with a broad base of lecturers from all around the regions of Nigeria and a sizeable number of international scholars. The courseware development initiative began with the establishment of a university wide courseware development committee, saddled with responsibility of providing expertise in learning styles, pedagogy, instructional design, teaching and learning, learner-center environments in the process of courseware design, development and implementation. Studies outside the University of Ilorin have shown the advantage of open access publication in terms of access and research impact (Antelman, 2004). At various fora during the kick off of the courseware development training for faculty in a series of workshops, some participants demonstrated a reluctance to embrace open courseware development due to what they termed peculiarities in their disciplines, issues of premature disclosure, plagiarism, fear of upsetting the current system, indifference, long term storage and retrieval, and intellectual property rights of their work, etc were among the most noted. All of these fears were also noted in a study by Yiotis (2005).

The university wide courseware development committee saddled with the responsibility of training lecturers the skills of courseware design, maintaining a database of all courseware materials on the university website and other management issues in the provision of support and resources management for an Institutional Repository (IR), faces significant challenges, among them the ability to persuade faculty to contribute important research representing large investments of time, this is in line with a study by van Westrienen & Lynch (2005). Other challenges identified in the work of the University of Ilorin Committee included, faculty preference for traditional publication workflows and practices vary for each academic discipline, it is reasonable to assume that motivations and concerns vary as well.

The University of Ilorin Courseware Development Committee followed an instructional alignment, which refers to the alignment of the learning objectives, content, instructional strategies and assessment. The objectives, which should be measurably defined, serve as the starting point. The objectives are then used to determine suitable content, instructional strategies and assessment methods. The Committee followed this principle of alignment (instructional design) which is central to the design of any instructional material. This design was carried out by experts from faculty of education and others before a university-wide workshop both centrally and on faculty basis to equip faculty with skills on courseware development. The Committee thereafter came up with a courseware template for the university after far-reaching consultations with experts within and without the country. The template has five sections: the introductory part, course description and expectation, delivery strategies, assessment and evaluation, lastly, reading materials. The introductory section provides for communication, interaction and feedback from students and learners and is supportive of correspondences between faculty and learners by email, discussion forums, mobile phone and several other means. The core of content design is to be taken over in the online distance learning (ODL) phase of the university's project which is not part of this study. As such, the courseware development of the institution stops at the provision of weekly topics/modules, weekly objectives and learning goals, study questions and reading materials. The teaching contents proper are taken over at the ODL phase.

In the wider forums (other than strictly courseware related) where the issue of ownership is discussed at the University of Ilorin, very strong opinions come forth from both the administration and faculty on who should hold copyright and each constituent group makes it clear they are concerned with protecting their investment in the final product. The studies by Carnevale (1999), The Node Learning Technologies Network (1999) and Twigg (2000) corroborate this. On the face of it, it would appear that there is a wide gulf between the two groups of faculty – administration, and both sides have legitimate concerns.

Recent position papers on faculty ownership demonstrate the extent to which differences of opinion exist concerning faculty ownership of digital resources. For example, at a workshop held in Abuja in 2009 for top administrators of Nigerian universities organized by the National Universities Commission of Nigeria (NUC) a body responsible for the management of all Nigerian universities, it was concluded that the institution reserved the rights to intellectual property since the lecturers were employed by the institution and that rights over the courseware and related materials for instance were exclusive to the institution and not individual lecturers. This is a clear departure from the example from the American Association of University Professors (AAUP) for instance that developed a statement on copyright (http://www.aaup.org/spccopyr.htm). In their statement, they assert that "it has been the prevailing academic practice to treat faculty members as the copyright owner of works that are created independently and at the faculty member's own initiative for traditional academic purposes. Examples include class notes and syllabi, books and articles, works of fiction and nonfiction, poems and dramatic works, musical an choreographic works, pictorial, graphic, and sculptural works, and educational software, commonly known as "courseware." (AAUP, 1999).

The issue of faculty ownership in higher education has been somewhat an issue until the last few years. Until recently, the issue was straightforward, faculty typically held copyright with everything except patents. Until technology entered the picture, this was the policy arrangement university administrators, either explicitly or implicitly, maintained with their faculties. With the advent of the Internet, and in particular the capabilities of the web issues of intellectual property have once again come to the fore. One of the most interesting and complex an issue of intellectual property in the digital environment is faculty ownership of online courses commonly referred to as courseware. It is worthwhile to find out what other learning management system or technology faculty use in his or her teaching. This piece of information may provide new insights into the research problems of this study and may be useful for future research and study. It is also informative for the purpose of this study to find out why faculty has not chosen to use courseware in his or her teaching.

Statement of the Problem

Though the concept of open courseware is still new in Nigeria and evolving world over, there are many aspects for discussion and exploration. There is a considerable debate as to who should be responsible for maintaining courseware materials, the intellectual property rights of authors and publishers who in this case are members of faculty, content management, preservation, and modes to ensure the quality, .motivation for faculty in terms of the personal and budgetary implications, and the technology to employ. The knowledge of the weaknesses in the courseware development system at the University of Ilorin, Nigeria is required in order to address and strengthen the system. Exceptions to courseware development trends that show strong contributions from certain disciplines within the University of Ilorin, if known, can be a valuable resource in providing specific rationale, justification, and practical advice in preparing incentives and soliciting materials for faculty to contribute to courseware development on a broader scale university-wide and beyond. Although a few evaluation studies of open courseware development have been undertaken, no effort has been made so far to evaluate the factors that motivate or impede faculty in contributing to courseware development in Nigeria. Several studies have shown that relatively little is

known and less published on faculty perceptions of courseware development, teaching values and support for courseware development (Hardin & Canero, 2010). This study is an endeavour in this direction. It will help to explore the fundamental issues regarding the concept and pave the way to framing basic policies and objectives for initiatives supportive of faculty contribution to courseware development across universities in Nigeria and Africa.

Objectives of the Study

The objectives of the study are to:

1. Investigate faculty perceptions and values of courseware development
2. Identify relationship between teaching beliefs and faculty perceptions of courseware development
3. Identify technology use by faculty in their teaching
4. Determine level of faculty contributions to courseware development
5. Determine barriers and inhibitors to faculty contribution to courseware development

Literature Review

Open Courseware Development

Ghosh and Das (2007) in a descriptive survey of open access and institutional repositories in India found that the Open Courseware (OCW) movement in that country had gained momentum with announcements of the availability of learning resources on the Internet by three important national level organizations, namely the Indira Gandhi National Open University (IGNOU), the National Council of Educational Research and Training (NCERT) and the Indian Institutes of Technology (IITs). IGNOU is a mega Open University that provides distance education to millions of learners in India and other countries and IGNOU produces self-instructional study materials for various programmes and also hosts a number of educational broadcasting channels. IGNOU has initiated the establishment of a National Digital Repository of learning resources – *e-Gyankosh*. This depository envisages to store, index, preserve, distribute and share the digital learning resources of open and distance learning (ODL) institutions in the country. The National Programme on Technology Enhanced Learning (NPTEL) (www.nptel.iitm.ac.in) is an open courseware initiative by seven Indian Institutes of Technology (IITs) and the Indian Institute of Science (IISc). This initiative is funded by the Ministry of Human Resource Development (MHRD). The main objective of this programme is to enhance the quality of engineering education in the country by developing more than 200 curricula-based video and web courses. Premier institutions of India are expected to participate in this innovative programme for the production and dissemination of quality courseware in the areas of engineering and technology. Already a number of examples of open courseware are available through its website. In conclusion of the study, it reported that open access was the way out for developing countries to internationalize their publications and tap in the global pool of scholarly work (Ghosh and Das, 2007). Chavez, Crane, Sauer, Babeu, Packel and Weaver (2007) stress that institutional repositories need to provide some value added services in addition to preservation and access to digital objects.

The US Sloan Consortium in a survey in 2002 to 2003 found that about 40 percent of faculty at universities in the U.S. does not accept the value and legitimacy of online education (Allen and Seaman, 2003). The university teachers in the survey raised the following questions: Why should I create technology-based or online materials? What are the incentives? What rewards am I offered for changing how I teach? Are there actually disincentives? Will I lose intellectual control over my course materials if I make even a portion of my materials available online? Computers make copying very easy, and both administrators and faculty question who really owns the digital course materials. If I get another

appointment, can I take this work with me? Faculty sense the difference between traditional classroom courses, which they carry with them in files and lecture notes, and technology-based or digital courses that "exist" on university servers. It is not clear how to resolve or even deal with the differences (Allen and Seaman, 2003)

Liu, Yi and Lim (2009) in a study of multiple case study of the instructor's roles in courseware development reported that past literature on e-learning system and courseware have focused on the system features and on the technologies employed and to integrate IT well with pedagogical principles, it was important to involve instructors in the courseware development. This study sought to gain insight on courseware development by investigating instructor's different roles in each courseware development phase. It used an educational system development model and role theory as theoretical lens, this research conducted multiple case studies involving three sets of language courseware and revealed that courseware development was a gradual process requiring dynamic role playing of the instructor. Lessons were drawn from the case study to improve courseware development efficiency by facilitating instructors' role transition and reducing their role overload and role ambiguity. Theoretical and practical implications of the process-based role framework were discussed.

Beng and Seh (2007) found that lack of experience in the use of self-instructional material among the faculty members was a major challenge to their contribution to courseware development. It found that while the institution it surveyed had achieved some success in implementing self-instructional online learning, the experience was restricted to the language team only and not institution-wide. It stated further that the concept of self-instructional material was fuzzy to many faculty members. It was reasonable to say that, generally, lecturers did not see the distinction clearly between self instructional and informational material in online learning. Although this was an issue that has to be addressed, it also provided an indirect opportunity for the institution it surveyed to engage in staff development in this area. The survey concluded by identifying that lack of specific funding for courseware development, lack of provision for full spectrum of expertise led to ill-defined courseware development teams.
From review of literature, OCW is a tangible product that can include myriad products such as Web pages, video clips, packaged readings, animation, and simulations that together create a package that is tangible and marketable. In the view of faculty, even though the online course is a tangible product, it does not have coherency until the faculty provides the intellectual "glue" (Carnevale, 1999; Twigg, 2000, p. 15). As a result, debating whether the online course can be delivered in the absence of the creator is less of an issue than deciding how to address the ownership and use question for what is already a marketable commodity in use at many institutions using myriad types of agreements with their faculty.

Faculty Perceptions and Ownership rights of Courseware

Carnevale (1999) reported the issue of quality. It found a concern among faculty that once the control of courseware is transferred to the university, the quality of the product could be jeopardized. Or, the original product, that was up-to-date when it was created, could become outdated and the faculty originator could find he is still mentioned as the author. In the same vein, the faculty member might be held responsible for the content without knowing the content is still being delivered elsewhere at the university. Faculty want ownership so they have the right to update the content, ensure the accuracy of the facts presented in the course content, and respond to developments in the field as they occur and need to be incorporated into the course. In the view of many faculty, if they do not have ownership, then it is possible they would not have the authority needed to ensure that their original work product continues to have the same academic integrity it had when it was developed. From the viewpoint of many faculty, ownership is directly tied to academic freedom. If the institution owns their work, there is the possibility

that their employer might want to have a greater say in their work products. A related issue in most reviewed literature issue is the faculty's opinion is on the "marketability" of the final courseware product. The portability of digital work, and the ease of making changes to digital content, heightens faculty awareness of the academic freedom issue and online courseware.

Kelly (2000) in a study on issues and policy models of faculty ownership of courseware for distance learning reported the issue involved in control is the issue of quality. The study found a concern among faculty that once the control was transferred to the university, the quality of the product could be jeopardized. Or, the original product, that was up-to-date when it was created, could become outdated and the faculty originator could find he is still mentioned as the author. In the same vein, the faculty member might be held responsible for the content without knowing the content is still being delivered elsewhere at the university. The study concluded by stating that faculty want ownership so they have the right to update the content, ensure the accuracy of the facts presented in the course content, and respond to developments in the field as they occur and need to be incorporated into the course. In the view of many faculty, if they do not have ownership, then it is possible they would not have the authority needed to ensure that their original work product continues to have the same academic integrity it had when it was developed. Giving faculty ownership, however, does not mean the institution has rescinded all rights to the works.

Institutional Perceptions

From the review aforementioned, members of faculty have legitimate concerns about ownership of courseware and related materials, which may affect their contribution to courseware development but so do university management and administrators. Carnevale (1999) found that faculty do not own patents, they receive royalties instead. From an institutional perspective, the same agreement applies in the case of courseware. If the cost to the institution is significant, then the institution has an interest in ownership and is also very concerned about the return on its investment in the course. Another issue of concern for institutions according to Carnevale (1999) also revolves around return on their initial investment, is licensing to external organizations. The process of licensing is complicated and few institutions have done it successfully. Institutions are also concerned about faculty ownership and the resultant possibility of conflict of interest or competition. However, Kelly (2000) found that there are far more institutions where ownership resides with the faculty member; which is more in line with traditional policy on intellectual property in higher education in the US.

Kelly (2000) found that most institutions and their faculty think the central question is ownership. However, the essential question is what rights each party takes away from the transaction. In a study commissioned by the Association of American Universities, AAU (1999) found in the case of the University of Maryland System's revised policy, which includes the 13 campuses of the University of Maryland, ownership resides with the faculty member for traditional scholarly works developed using "usual and customary" resources. Kelly (2000) recommended the following: that administration and the faculty need to come to agreement on the issues of ownership if the policy is to be useful and viable for all concerned; the policy needs to explicitly state the underlying assumptions concerning ownership in the policy. The policy needs to answer questions such as: who has ownership of intellectual property according to the policy? The policy needs to define how ownership will be shared and under what circumstances. The study also provided three categories of models of ownership of courseware.

Motivation

Shavelson and stern (1981) state that when lecturing, emphasis is on input of materials taught whilst when teaching, what students are taught facilitate their development. During lectures there is concentration on conveying the up-to-date knowledge whereas class teaching concentrates on the students according to whose needs and abilities they tailor the lesson plan. The study distinguished between teaching and lecturing alongside the factors aforementioned.

Scheidecker and Freeman (1999) describe motivation as a multi-faceted notion that is complex making it such an interesting and challenging issue. They observe that motivation is, without question, the most complex and challenging issue facing teachers today (Scheidecker and Freeman ,1999 p. 116). Motivation determines the extent of active, personal involvement in an activity. In every-day life, we usually use the term when we want to explain why people think and behave as they do. Menyhart (2008) and Dörnyei (2001) argue that teaching itself is a type of human behavior; therefore, general models of motivation must be applicable to describe it. Consequently, Dornyei (2001) claim that motivation to teach determines why people decide to teach, how persistent they are, and how much effort they put into it.

Courseware Development Models

Models help to conceptualize representations of concepts by providing simpler representations of more complex forms and processes (Gustafson & Branch, 1997). Therefore, it is not surprising that there is a plethora of models for instructional development, because they are, by nature, complex processes. Seels & Richey (1994) defined instructional development as "an organized procedure that includes the steps of analyzing, designing, developing, implementing, and evaluating instruction" (p. 31). Because a model offers a simpler way for conceptualization and "an organized procedure", adopting it makes then development more amenable to proper project management treatment. However, it is important that a useful model is adopted to guide instructional development, as a misfit renders the model more of a hindrance than a help. Gustafson and Branch (1997) proposed a classification for instructional development models based on the orientation of the models, which could be: classroom orientation, product orientation or system orientation. Models that fit this project better should be product-oriented, and the two models chosen for this project were Rapid Prototyping Model by Tripp and Bichelmeyer (1990) and the Leshin, Pollock and Reigeluth (1992) Model. The Rapid Prototyping Model, is the main model to guide Phase 1 and 2. It fits well with prototyping as a strategy to achieve incremental successes. By Phase 3, the project dynamics and the instructional design will be more established. The use of prototypes can be minimized and a linear model may be more desirable. The Leshin, Pollock and Reigeluth (1992) Model, which is a more linear model, may serve this final phase better.

Georgiadou and Higgett (1998) in a study on the design of web based hypermedia courseware in higher education stated that it appeared that Web-based instructional authors had not had access to an instructional model, which had been empirically tested, because most of the studies in this area were exploratory since this medium was so new in education. However, there was a large body of knowledge in the field of instructional design from which one could draw suitable conclusions for the design process of Web-based educational hypermedia. The study recommended that a precondition for effective Web-based courseware design in higher education was careful consideration of the traditional body of knowledge in the field of instructional design which should act as a foundation for future developments in the design process. This body of knowledge included theories of instruction and courseware design factors that concern hypermedia structure, learner control, feedback, interactivity, and screen design elements. The findings of the empirical study proposed a framework of five stages that included: a review of the area of instructional design in order to identify design and development considerations potentially

applicable to the development of Web-based courseware that aims to support the delivery of physical modules in higher education; an evaluation at end of each of the stages; at the stage of technological development complex graphics and video should be used sparingly because current bandwidth limitations results in unacceptable download times for multimedia rich elements which frustrate the learning process.

Methodology

The study chose a pure quantitative method using descriptive survey approach. A questionnaire is used for data collection. The questionnaire was developed with items adapted from previous related studies. The questionnaire was trail tested. Data collected was analyzed so as to determine their validity and reliability. A test-retest reliability was embarked upon to determine the reliability of the questionnaire. A statistical package for social sciences (SPSS) was also used to analyze the data and method of analysis included: percentages and frequency count. An evaluation of the web link and available resources on the pages for open courseware on the university website (University of Ilorin) was taken to know faculty perceptions about them and if they and other factors motivated faculty to contribute to courseware development.

Population and Sample

All faculty staff of the University of Ilorin, Nigeria were invited to respond to the online survey (n=812). All faculty members were sent invitations to their email accounts in August 2011 to participate in the survey. The emails contained web link to the online survey and reminders/follow up mails were sent to all faculty emails on a weekly basis till 31 August 2011. The data collection spanned over 4 weeks. The questionnaire was developed by the researcher based on a review of literature and a careful observation and analysis of those features in UNILORIN courseware that are available to the population. There was a response rate of 22% to the survey (n=180) which met the desired sample size of 82 (Isreal, 2003). Data was collected mostly with a 3-point likert scale measurement and validated by Davis (1989). There were a total of five different scales for this study, with four of them using the Likert or Likert-type scales and one of them using the check-all-that-apply type of scale. The four Likert scales are the Perception of Open Courseware (OCW) scale, Factor analysis of faculty teaching beliefs, the Motivators of Courseware scale, the barriers of OCW scale and the scale on the degree of usefulness of OCW on the UNILORIN web link to open courseware. The check-all-that-apply scale was used to collect data on the usage of open courseware features.

Reliability

The rating scale items on the questionnaire were tested post-data collection for internal consistency reliability, using Cronbach's alpha reliability coefficient. The alpha reliability value stood at .763 indicating that the data collected via the rating scales show satisfactory reliability, in excess of the 0.70 level routinely considered adequate for survey instrument items (DeVellis, 1991).

Findings and discussion

Demographics

A closer observation indicated that out of the 180 respondents only 13 had no experience with courseware development and their status showed they were staff engaged in the period less than a year. Demographic information included experience with courseware development, seminars attended on courseware development, number of years in teaching, status, the number of classes taught per semester, the method

of conducting the class (face-to-face, simulation, online, etc),. 180 responses were received and analyzed using SPSS. The analysis of demographic information included the respondents who were experienced with courseware development, 13 who had no experience and 34 others who had developed courseware at one point or the other but who indicated that they did not use courseware in the teaching of their courses.

Table 1 Years of experience with Open Courseware (OCW) (n=180)

No of years	**Frequency**	**%**
No Experience	13	7.2
1 yr or less	17	9.4
2 – 4 yrs	124	68.9
5 – more	24	13.3
I do not know	2	1.1

Table 2 Number of Years of Teaching Experience

Years	**Frequency**
Less than 2 years	**19**
2 – 4 years	**97**
5 – 7 years	**21**
8 – 10 years	**20**
11 years and above	**23**

Table 3 Number of Respondents by Faculty (n=180)

Faculty	**No of respondents**
Agriculture	31
Arts	17
Basic & medical sciences	13
Business & Social Sciences	19
Communication & Info. Sciences	40
Clinical Sciences	4
Education	21
Engineering & Technology	9
Law	12
Science	14
Veterinary Medicine	0
Pharmaceutical Sc.	0

Table 4 Status of Respondents (n=180)

Rank	**No of Respondents**	**%**
Graduate Assistant to Lecturer I	102	56.7
Senior Lecturer to Reader	59	32.7
Professor	19	10.6

Perception and Values faculty place on Development/Use of open courseware development (n= 180-13=167)

Faculty was asked to respond to extent in which they agreed to some statements made as answers to questions they were asked. Room was left for them to make additional comments. Issues investigated included the potential impact of the use of open courseware on learning and faculty teaching, the challenges and need for support system that faculty associate with their development and use of open courseware. Some of the questions were:

1. What training do you need to support courseware development?
2. What are the challenges you face in courseware development and use in your teaching?
3. How do you observe use of courseware in assisting students to learn?
4. In your teaching, is use of open courseware helpful?

Teaching Beliefs of Faculty
Some of the questions (with options) asked respondents are below

1. To what extent do you see the following as potential impacts of using open courseware on student learning?
2. To what extent do you see the following as potential impacts of developing/using open courseware on your teaching?
3. To what extent do you see the following as challenges in developing/using open courseware?
4. To what extent would you need the following support systems to better develop/use open courseware?

A section of the question was on faculty teaching and was developed and validated by two experts in the field from the faculty of education to assess teacher-centered, learner-centered, and learning-centered beliefs (adapted from several related studies such as: Avraamidou, Lucy and Zembal-Saul, 2003; Cho and Brown, 2007; Barkley, 2001). The questionnaire is comprised of three subscales, teacher-centered beliefs, learner-centered beliefs, and learning-centered beliefs. As for the construct validity of the measure, a factor analysis was performed using the principal axis-factoring, extraction method. As predicted, a three-factor structure was found. Factor loadings are displayed in Table below

Table 5 Factor Analysis Results of Faculty Teaching Beliefs

	Learner Centred	**Faculty Centred**	**Learning Centred**
I encourage learners to constantly check their own understanding while they are studying.	.655		
When evaluating learners, it is important to consider multiple approaches	.682		
It is important to help learners ponder on their thinking and learning processes.	.645		
Effective teachers consider students' prior knowledge/experience.	.609		
I give avenue for learners to discuss their development of understanding of concepts.	.570		
Giving lectures is important because they model subject matter expertise		.741	
I focus mainly on information students will need to pass the tests/exams.		.739	
Tests should have clear and correct answers.		.724	
My methods of grading are mainly on tests and assignments.		.721	
I use textbooks to plan my course.		.541	
It is important to present basic knowledge to students.		.538	
Many of my assignments require students to work in groups/teams.			.921

I grade students' team work skills.			.719
My course activities usually require students to work individually.		.361	-678
I encourage students to work together to solve authentic problems that students help identify.			.647
I provide opportunities for my students to critique each others' work.			.581

Faculty perceptions and values of the use/development of Open Courseware

1) How do you see courseware helping your students learn?

Some faculty did not see any value of developing or using open courseware in their teaching and learning. Even though, many faculty perceived that use of courseware helped learners collect and exhibit their learning while some faculty viewed the value of courseware as helping students self-pace their learning, set personal goals and evaluate their progress. A few members of faculty reported the interactive and collaborative aspects of use of courseware by forms of group learning, team assignments and good communication amongst students on one hand and between students and faculty.

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2) How do you see use of courseware as a help in your classes?

Faculty perceived values of using technology as a teaching tool and reported that courseware helped them to assess their own teaching practices, revise course planning, learn about student experience and learning progress, and increase opportunities to collaborate with other faculty. Some faculty reported that the use of courseware allowed them to expand time and place in teaching by sharing even for an audience outside the four walls of the classroom. Some faculty pointed out negative aspects of using courseware as a teaching tool, reporting that courseware made it time-consuming and course planning more complex.

Perceived Degree of Usefulness of Courseware in Teaching

This consists of similar 3- Likert-scale items as above. There are 10 items that represent very common features of open courseware. The results show the degree of usefulness of the University of Ilorin (UNILORIN) open courseware. The 10 items were divided up in three sections of aesthetics/graphical features, features for instruction/teaching and thirdly communication/participatory features. Respondents were asked if they found any specific features useful in teaching of their courses (from the three broad features) by selecting either 'Disagree', 'Undecided' or 'Disagree'. The 'Undecided' has a value of 0. The mean score indicated that on the average, the respondents agreed that the three common features of courseware were moderately useful in their teaching. Further comparison among the three different groups of features, classified in this study as interactive, visual and instructional, indicated that instructional and interactive features were perceived as more useful in their teaching of learners by the respondents and visual features less useful. The table below illustrates the distribution of the averaged scores for the perceived usefulness of the overall features and by group. The table 8 below illustrates only the items that were responded to out of the 10 items listed.

Table 6: Perceived Degree of Usefulness

Courseware Features	Overall Average Score
Aesthetics/Graphical	0.53
Images, colours	0.01
Interactive – groupware, groupmail, discussion	5.5

forum, wikis, blogs, emailing, chat, online communities	
Course Documents	3.54
Instruction/Teaching Features	4.1

Use of Courseware and Other Learning Management Technologies in Teaching

With such consideration as, what technologies do faculty use in their teaching? The very first question that the faculty needed to respond to was whether or not they had used courseware before in their teaching. If the answer was affirmative, then they may proceed with the rest of the survey. In the case when the answer was not an affirmative one, they were asked to specify the other types of computer technology, including other learning management software or tools besides opencourseware that they may have used or are using in their teaching. A total of 70% of respondents had never used courseware in their teaching. Of this percentage (70%) most belonged to junior faculty positions. 2% had used it before at institutions other than the University of Ilorin, Nigeria (UNILORIN) and were from only the faculties of Arts and Clinical Sciences.

Table 7: Faculty contributions to courseware development along lines of discipline (Source: University of Ilorin website link to open courseware, August 2011).

Faculty	**No of Respondents**	**Total No of Courses in Faculty**	**No of Courseware Developed (for courses) by Respondents available on UNILORIN Website**
Agriculture	31	193	6
Arts	17	633	3
Basic & medical sciences	13	93	0
Business & Social Sciences	19	350	0
Communication & Info. Sciences	40	256	12
Clinical Sciences	4	0	0
Education	21	270	0
Engineering & Technology	9	249	0
Law	12	107	5
Science	14	429	0

Table 8: Faculty reasons for developing or not developing open courseware available on UNILORIN website (n=167)

	Agree	Undecided	Disagree
For easy access to my course materials for students and others	165	2	0
For publicity of my work, research and teaching areas/specialization	105	34	28
Posting courseware for my courses on publicly accessible UNILORIN website will enlarge the readership of the	141	10	16

materials			
Posting courseware for my courses on UNILORIN website allows other scholars to access materials they could not otherwise use	156	5	6
Posting courseware for my courses on UNILORIN website will adversely affect my promotion or career	0	0	167
Courseware or teaching materials held online are not preserved/archived properly	98	13	56
Teaching materials publicly accessible are not maintained securely	23	9	35
Copyright is infringed upon by my making available online courseware for my courses	98	5	64
It is improper for virtually anybody to access my intellectual work – courseware online on the UNILORIN website	111	4	52
If I develop courseware for all my courses make them available on the UNILORIN website readers may plagiarize or fail to cite my work	87	11	69
In my field it is common to make teaching materials and even research work available on publicly accessible websites	143	3	21
My decision to develop/make or not make courseware for my courses available on the UNILORIN website was influenced by my fellow lecturers (team teaching) and collaborators	45	12	110
My decision to develop/ make or not make courseware for my courses available was influenced by university administration, department/faculty	56	29	82

Perceived Barriers to Courseware Development

Table 9

Time to learn new system	Courseware cannot be developed for my discipline
Lack of financial motivation (stipends, etc) for courseware development	Concern about increase in faculty workload
Lack of non-financial motivation	Lack of Internet access
Time for development of courseware	Lack of materials to develop courseware
Too tight schedule, no time	Issues of ownership rights/copyright infringement on my intellectual property
Resistance to change	Lack of encouragement from colleagues
Student resistance	Lack of electricity
Lack of time to learn/use/develop it	Lack of clear direction on how to use it
Lack of Departmental support	Lack of pedagogical rational for using courseware
Lack of regular training and workshops on courseware development	Rigid courseware template from UNILORIN courseware committee
Technology issues – lack of skills and IT support	

Table 9 above shows the variety of responses of faculty to multiple choice questions regarding their perceived challenges of courseware development and use. Time and lack of motivation emerged as the most common challenging issues in relation to courseware development and use. Another challenging issue involves issues of ownership rights (whether ownership is by institution or the individual lecturers who took time off to develop the courseware made available to the public) and then complaints about the template adopted for use which some said was too rigid (respondents were asked to add their own comments). Two other respondents (in their additional comments column on the questionnaire) said they felt put off by lack of multimedia – audio, video and images on the courseware.

Implications

Findings show that faculty have wide ranging perceptions of the value of courseware use and development such as a learning tools, good for students' review, self-learning to name but a few. The faculty that participated in the survey highlighted outstanding features of the UNILORIN open courseware to include communication and collaborative tools such as email lists, groupware, discussion forums and online communities. These findings are similar to several studies (McMahon, 1997; O'Reilly, 2005; Weller, 2006; Cantoni, Cellario and Porta, 2003) that the Web is an ideal forum for constructivist learning. The studies mainly see e-learning platforms such as open access courseware, Web 2.0, VLE 2.0, weblogs and wikis as social and active processes. Many lecturers in this survey shared the views of Weller (2006) and O'Reilly (2005) that courseware seemed more interactive, less static, with no programming and being user-centered or learner-centered. The findings in this study in Nigeria are similar to those of Anderson (2003), Halawi & McCarthy (2007), Heaton-Shrestha, Gipps, Edirinsingha, & Linsey (2007), Woods, Baker & Hooper (2004) on the usefulness of different features in Blackboard software. The findings from this survey in Nigeria show that lecturers who hold learner-centered or learning-centered beliefs tend to see more positive values of the use of courseware. The study found that many faculties were dissatisfied with lack of images and multimedia available on the courseware. Meanwhile, Cantoni, Cellario, and Porta (2003) emphasized the importance of visual components in the development of future e-learning systems. That study also predicted that the adoption of new interaction paradigms based on multidimensional metaphors and perceptive interfaces are a necessary direction to take in order to achieve more natural and effective e-learning experiences. Furthermore, this study on perception, motivation and factors that affect faculty to develop and use courseware found that faculty perceptions of the value of courseware use were significantly related to the faculties' teaching beliefs. This is not too different from the study by Teo, Chai & Lee (2008) that examined the possible relationship between teachers' beliefs about teaching and uses of technology. Unlike past research on this issue, the results from this study showed that belief in constructivist teaching correlates significantly with both constructivist and traditional uses of technology. A similar study by Windschitl & Sah (2002) found that the ways in which those teachers eventually integrated computers into classroom instruction were powerfully mediated by their interrelated belief systems about learners in their school, about what constituted "'good teaching" in the context of the institutional culture, and about the role of technology in students' lives

Conclusions

Similarly open courseware may be a richer experience for both the students and the teacher as the students have a diverse background and may contribute new ideas to the discussion. The faculty may base their success on the basis of how much the students have actually learned in the either the integration of open courseware to traditional classroom or distance learning, in the teaching process. The teachers may feel that the open courseware process is incomplete if the students do not have access to facilities like the libraries, computers etc. Due to the psychological distance introduced by the physical separation between

the student and the teacher, the students and the teacher may feel a sense of disconnect in the case of distance learning. The feeling of incompleteness is reduced in the case of integration of open courseware in traditional face to face teaching. Technological disturbances may further cause more disturbances in the teaching and learning process. Hence adequate technical support is necessary for the teachers to continue teaching in a smooth flow. The teachers may not have been provided with adequate training of how to use the technology that has been provided. Similarly, in absence of visual feedback from students the teaching process may be completely different from the teaching experience in a traditional classroom. Hence teachers should be guided in terms of pedagogy as well as policies of courseware development. The lecturers who participate in the courseware development expect support from the rest of the faculty as well as the administration. As compared to the traditional classroom teaching the teachers need to spend significantly more time and effort in the courseware development experience. There should be close coordination among the various technicians, faculty, and managers of courseware materials on the university website as open courseware development is a team effort. As said earlier, proper planning of course structure and quick feedback through the means of assignments is essential for the students and the lecturers should be aware of that fact. Declaring the course objectives and the assessment criteria helps the students and the lecturers agree on some parameters. Experience and practice improves faculty comfort, knowledge and skills required for the technology based teaching that open courseware provides. The research says that the enthusiasm and commitment of the teachers in courseware development should increase the student learning. There are also chances that faculty who are provided adequate training and are more comfortable with the courseware development and technology help the teaching during the lecture. The course has to be suited for the courseware development facility.

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THE RELATION OF PHYSICS TEACHERS' LEADERSHIP WITH BURNOUT LEVELS AND ATTITUDES TOWARDS CHANGE. TURKEY CASE

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Abstract
Nowadays, leadership concept has changed into ability to work with team behaviour from doing something alone It is inevitable that school managements include their teachers to the leadership concept. Leadership of physics teachers who educate necessary individuals for developing society in views of technologically and scientifically is important. This study was aimed to determine relation of physics teachers' leadership with burnout levels and attitudes towards change. 57 physics teachers working in Isparta city in Turkey at 2010-2011 educational years were determined as the sample of this correlation survey study. Teacher Leadership Scale (TLS), burnout inventory and attitude towards change scale were used as data tools. Results of study was found out that physics teachers' burnout levels were very low. Expectation leadership behaviour and perceived leadership of the Physics' teachers displaying leadership above normal level were significantly different. Besides, the relation between physics teachers' attitudes towards change and leadership behaviour determined at medium level.
Keywords: Teacher leadership, school management, burnout, attitude towards change.

INTRODUCTION

Nowadays, leadership concept has become behaviours of individuals' working together as a team at the management of organizations. Schools are the organizations leading to society. Therefore, openness to changing and development of these organizations and their staff are possible by means of displaying expectation leadership behaviour (Ehrlich, 1997; Buckner and McDowelle, 2000; Gunter, 2001; Wallace, 2001; Beattie, 2002; Çalık, 2003; Taymaz, 2003; Murphy, 2005).In addition, understanding of school management should be parallel with this perspective. Because school leaders are expected to train individuals transforming their school for development and contributing to this development (Hale, 1998; Nichols, 2007; Buckner and Mcdowelle, 2000; Bolman and Deal, 1988).

The leadership at school managements has been generally considered with school managers and also abilities and capabilities of managers have been regarded as an important issue (Ehrlich, 1997; Begley, 2001; Beycioğlu and Aslan, 2007; Harris and Muijs, 2005).

The change of traditional roles of managers, difficulties at taking all responsibilities, necessities of team work and cooperation of all of the shareholders, importance of displaying leadership roles by all members of school have been emphasized and suggested by many researchers. (Leithwood et al. 1997; Dimmock, 1999; Buckner and Mcdowelle, 2000; Wallace, 2001; Beattie, 2002; Fullan, 2003; Muijs and Harris, 2005).

Labich (1988) grouped the main points of effective leadership as inspiring confidence to people sharing the same environment, developing vision, being cool, taking risk, being a specialist, letting contradictory opinions and making them simple. The teachers having these features are important for school managements. Teachers work more effectively and devolop their schools in which they display their leadership. (Gronn, 2002, 2008; Harris, 2004).

The workers of service sector spend their most of their time for serving to other people at the society. This fact gets them to have the feelings like irritation, distress, amazement, fear and despair. The people who have to work under these conditions face the risk of cronical stress and burnout (Maslach & Jackson, 1981). Especially burnout is stated as a risk factor for the individuals having professions which need communication and interaction such as education, health and police (Barnett et al. 1999; Croom, 2003). The studies related to burnout of teachers show that teachers are under excessive work load and one-third of them have stress and burnout and also indicates that burnout weaken teachers' physical and mental health at significant rates (Goddard and Goddard, 1998; Cemaloğlu and Kayabaşı, 2007).

Many factors could cause burnout of workers. These factors could be generally grown out of factors related to individual (personal) and working organization (environmental) or combination of them (Akcamete et al. 2001; Cam, 1992). The researchers, who have found out the factors effecting burnout, have stated that also leadership behaviour effects burnout (Eren, 2001; Izgar, 2003).

Zabet et al. (1984) studied professional burnout on 601 teachers working with gifted and mentally disabled students and stated that teachers of gifted students are more risky at the subscale of emotional exhaustion compared to teachers of other fields of special education apart from teachers of hearing impaired and emotional disorders. Exhaustion to meet gifted students' needs during whole day is shown for the cause. The difficulties encountered by physics teachers while learning physics subjects also crucial for analysing their burnout.

Alwan (2006) defined educational change as an ongoing process that takes place with or without deliberate introduction of something different to education. Educational system renovation makes continuous changes necessary. Fulfilling this responsibility can be possible for educational organizations by following all social changes closely and firstly changing themselves regarding these developments (Calik, 2003) . At school organizations both managers and teachers should follow changes, try to get inside of them and encourage themselves (Cenker and Macaroglu, 2010). Eren (2011) stated that workers of organization could show their reactions against change in three ways. The first group consists of the ones ready for change in other words supporters, the second group is the ones against to change or opponents and last group is the ones careless and indifferent for change or namely neutrals. Having outnumbering workers which keep pace with change is important for development of organization (Yeniceri, 2002). The renewal of the physics programme in 2005 (MEB, 2005) has introduced many crucial changes. Researching the leadership features and attitudes towards change of physics teachers, who play the key role in carrying out these changes, has utmost importance.

Research questions are as follows:

Is there a relationship among leadership of physics teachers, burnout levels and attitudes towards change?

Do leadership behaviours of physics teachers differ in terms of their teaching experience, seniority, and the schools they graduated?

Methodology

This study was a correlational survey study aimed to describe leadership structures of physics teachers and their leaderships and to examine the relationships between physics teachers'burnout levels and attitudes towards change (Balci, 2001; Fraenkel & Wallen, 2006).

Sample

The target population of this study included all physics teachers in public and private schools in Turkey. The population was so large that it was difficult to access all physics teachers around Turkey. Thus, sampling procedures were employed. By sampling, it was considerable that the sample selected should be representative of the target population. The accessible population of this study, due to its convenience, consisted of all physics teachers teaching in public and private high schools in Isparta, Turkey. All of public and private schools in Isparta, which involve 82 physics teachers, were sampled in this study. Among all, 57 of them returned the questionnaires administered resulting in a response rate of % 70. It was more appropriate rate of sample (Fraenkel & Wallen, 2006). Data collected only from physics teachers teaching in the academic year of 2010-2011.

Instruments

Teacher Demographic Characteristics Scale (TDCS) : By this scale obtained data about demographic characteristics of participant physics teachers as follows: their age, gender, teaching experience, the faculty or school graduated, school type, their involvement in in-service training.

Teacher Leadership Scale-TLS: TLS was developed by Beycioğlu and Aslan (2010). TLS provides with revealing teachers and administrators' perceptions and expectations on teacher leadership behaviours. The scale is

25 items and Likert type. TLS forms of three subscales. These subscales labelled are the institutional improvement subscale has 9 items, the professional improvement subscale has 11 items, and the collaboration among colleagues subscale has 5 items (Beycioğlu and Aslan, 2010).

Maslach Burnout Inventory-MBI: MBI was developed Maslach and Jackson (1981) which 22 items Likert type scale was formed, MBI constitutes of 3 subscales Emotional Exhaustion, Depersonalization and Personal Accomplishment. MBI was adapted from Ergin (1992) to Turkish.

Attitude toward Change Instrument (ACSI) : ACSI was developed by Dunham et al. (1989), the ATCI was a 5-point Likert type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Scale scores were obtained by calculating the mean of the 18 items.

The quantitative data obtained through the items were analyzed via SPSS for Window using both descriptive and inferential statistics. Demographical data of the participants, their attitudes toward change, perceptions of constructivist curriculum change, and their implementation of constructivist teaching and learning activities in class at primary school level were briefly reported in terms of frequencies, percentages, and means, and visualized by tables or figures.

Results

Demographic background of participant physics teachers

Table 1. Demographical background of participant physics teachers

		f	%
Gender (*N*=57)			
	Male	42	73.7
	Female	15	26.3
Age (*N*=57)			
	20-25 years	2	3.5
	26-30 years	-	-
	31-35 years	24	42.1
	36-40 years	17	29.8
	41-45 years	10	17.5
	46-50 years	4	7.0
	51 + years		
Teaching experience (*N*=57)			
	1-5 years	3	5.3
	6-10 years	8	14.0
	11-15 years	21	36.8
	16-20 years	19	33.3
	21-25 years	6	10.5
	25-30 years	-	-
	30 + years	-	-
Faculty or school graduated from (*N*=57)			
	Educational Institute	-	-
	Faculty of Education	50	87.7
	Master degree	7	12.3
Working school type (*N*=57)			
	Public school	55	96
	High school	10	17.5
	Anatolian high school	13	22.8
	Anatolian Teacher Training High	4	0.7

	School Vocational High school Imam-Hatip High school Science High school Private school Anatolian high school	15 1 4 2 2	26.3 0.1 0.7 0.3 0.3
Number of in-service training (*N*=57)			
	1 – 3 times 3 + times	37 20	65.0 35.0

N for each item may vary due to missing responses

Table 1 show the sample profile of this study which was presented in frequencies and percentages. The majority of the physics teachers were males (73.7%), 42.1% of the physics teachers' ages were between 31-35 years old, 36.8% of physics teacher teaching experience 11-15 years and majority of physics teachers graduated from faculty of education (87.7%). Few physics teacher graduated from master degree. Most of physics teacher (96%) worked at public school, just two physics teachers at private school. As it seen Table 1 number of participation of physics teachers' in-service training activities is 1-3 times (65%), 35% of physics teachers have participated more than three times.

Table 2. One-sample Kolmogorov-Smirnov test of normality

		Burnout	**Expectation Leadership**	**Perception Leadership**	**Attitude towards Change**
N		57	57	57	57
Normal Parameters[a,b]	Mean	1,6451	4,0358	3,5411	67,33
Most Extreme Differences	Std. Deviation	,3134	,6435	,6141	9,52
	Absolute	,060	,078	,068	,070
	Positive	,059	,069	,068	,070
	Negative	-,060	-,078	-,043	-,061
Kolmogorov-Smirnov Z		,456	,592	,514	,528
Asymp. Sig. (2-tailed)		,985	,875	,954	,943

a Test distribution is Normal. b Calculated from data.

As it is seen that Table 2, in this study applying parametric tests needs to investigate whether test points are normal distribution or not (Büyüköztürk, 2005; Ravid, 1994). Physics teachers' burnout level points, expectation leadership, perception leadership and attitudes towards change test distribution is normal (p>.005).

Findings from Burnout Scale

Table 3. Descriptive statistics of subscale means of burnout scale

	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Emotional Exhaustion	57	,00	2,50	1,0724	,6568
Depersonalization	57	,50	2,17	1,0731	,4307
Personal Accomplishment	57	1,38	3,50	2,6469	,5149

Table 4. Physics teachers' burnout scale points according to gender t-test results

Gender	N	Mean	Std. Deviation	df	t	p
Female	40	1.62	0.33	53	-0.21	0.835
Male	15	1.64	0.26			

p>.005

Table 5. Physics teachers' burnout scale points according to seniority ANOVA results

	Sum of Squares	df	Mean Square	F	p
Between Groups	,279	4	6,981	,695	,599
Within Groups	5,223	52	,100		
Total	5,502	56			

p>.005

Table 6. Physics teachers' burnout scale points according to graduated school ANOVA results

	Sum of Squares	df	Mean Square	F	p
Between Groups	6,370	1	6,370	,064	,802
Within Groups	5,495	55	9,992		
Total	5,502	56			

Aydın (2002) states that burnout level points of all subscale can be determined as low, medium and high. As it is seen in Table 3, Emotional Exhaustion and Depersonalization subscales of burnout level points of physics teachers are very low and Personal Accomplishment subscale burnout level points are medium so physics teachers feel that they are successful at medium level. As it is shown in Table 4, regarding physics teachers' burnout level points there is no significant difference for gender ($t_{(53)}$=0.21, p>0.05). As it is revealed in Table 5, regarding physics teachers' burnout level points, there is no significant difference for seniority ($F_{(4-52)}$=0.695, p>0.05). Likewise, in Table 6 regarding physics teachers' burnout level points, there is no significant difference for graduated school ($F_{(1-55)}$=0.064, p>0.05).

Findings from Teacher Leaderships Scale

Table 7. Descriptive statistics of subscale means of teacher leadership scale

	N	Minimum	Maximum	Mean	Std. Deviation
ExpectationLeadership	57	2,76	5,40	4,03	,6435
Institutional Exp.	57	2,22	7,89	3,76	,9724
Professional Exp.	57	3,00	5,00	4,23	,5931
Collaboration Exp.	57	2,20	5,00	4,08	,7009
Perception Leadership	57	2,32	5,00	3,54	,6141
Institutional Per.	57	1,44	5,00	3,13	,7481
Professional Per.	57	2,55	5,00	3,86	,6829
Collaboration Per.	57	1,80	5,00	3,56	,7405

Table 8. Paired sample t-test of physics teachers expectation and perception leadership behaviour points

	N	Mean	Std. Deviation	df	t	p
ExpectationLeadership	57	4,03	,6435	56	6,937	,000
Perception Leadership	57	3,54	,6141			

Table 9. Expectation leadership behaviour points according to gender t-test results

Gender	N	Mean	Std. Deviation	df	t	p
Female	40	4,008	,6196	53	-,282	,779
Male	15	4,064	,7485			

Table 10. Perception leadership behaviour points according to gender t-test results

Gender	N	Mean	Std. Deviation	df	t	p
Female	40	3,534	,6089	53	,004	,997
Male	15	3,533	,6589			

As it is seen in Table 7 , physics teachers' expectation leaderships behaviour points are 4.03, perception leadership behaviour points are 3.53. As it is shown in Table 8, there is no significant difference between physics teachers expectation leadership and perception leadership points ($t_{(56)}$=6.937, p<0.05). Moreover, as it displayed in Table 9, there is no significant difference physics teachers expectation leadership for gender ($t_{(53)}$=-0.282, p>0.05). Likewise, as Table 10 reveals, there is no significant difference physics teachers' perception leadership points for gender ($t_{(53)}$=-0.004, p>0.05).

Table 11. Correlation of physics teachers' burnout levels with expectation and perception leadership, and attitudes towards change

		Expectation Part	Perception Part	Attitudes towards Change
Burnout	Pearson Correlation	,154	,079	-,062
	Sig. (2-tailed)	,254	,561	,649
Expectation Part	Pearson Correlation	1,000	,634**	,293*
	Sig. (2-tailed)	,000	,000	,027
Perception Part	Pearson Correlation	,634**	1,000	,316*
	Sig. (2-tailed)	,000	,000	,016

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

The results of the correlation analysis presented above Table 11 indicate that only nine of the five correlations were statistically significant. The expectation leadership subscale of TLS was significantly correlated with perception leadership subscale of TLS (r=.634, p<.000). The attitude towards change was significantly correlated with expectation part subscale of TLS (r=,293, p<.005). The attitude towards change was significantly correlated with perception part subscale of TLS (r=.316, p<.005).

Table 12. Correlation of physics teachers' burnout with attitude towards change and leadership subscales

		Institutional Exp.	Professional Exp.	Collaboration Exp.	Institutional Per.	Professional Per.	Collaboration Per.
Burnout	P.Correlation	,187	,099	,054	,127	,040	,015
	Sig. (2-tailed)	,164	,464	,688	,347	,770	,911
Attitude Change	P. Correlation	,206	,372**	,138	,226	,472**	-,056
	Sig. (2-	,125	,004	,305	,091	,000	,681

	tailed)						

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

The results of the correlation analysis presented above Table 12 indicate that only twelve of the two correlations were statistically significant. The professional improvement expectation subscale of TLS was significantly correlated with attitude towards change (r=.372, p<.000). The professional improvement perception subscale of TLS was significantly correlated with attitude towards change (r=.472, p<.000).

Tablo 13. Correlation of Physics teachers' burnout subscales with expectation and perception leadership subscales

		Institutional Exp.	**Professional Exp.**	**Collaboration Exp.**	**Institutional Per.**	**Professional Per.**	**Collaboration Per.**
Emotional Exhaustion	P.Correlation	,017	-,143	-,032	-,037	-,248	-,101
	Sig. (2-tailed)	,899	,288	,811	,784	,062	,456
Depersonalization	P.Correlation	,153	-,087	-,030	,142	-,100	,041
	Sig. (2-tailed)	,256	,521	,826	,293	,461	,762
Personal Accomplishment	P.Correlation	,195	,403**	,151	,171	,446**	,128
	Sig. (2-tailed)	,146	,002	,263	,204	,001	,342

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

The results of the correlation analysis presented above Table 13 indicate that only two of eighteen correlations were statistically significant. The professional improvement expectation subscale of TLS was significantly correlated with personal accomplishment (r=.403, p<.000). The professional improvement perception subscale of TLS was significantly correlated with personal accomplishment (r=.446, p<.000).

Disscussion

In this study, burnout levels of physics teachers have been determined as very low. Subscale of personal accomplishment is at medium level. The low burnout levels of physics teachers, who are teaching a very important course at secondary education, is a very good situation. Besides, physics teachers' burnout level there is not differences for gender, seniority and graduated school. These results are the same (parallel) with certain researchers' results (Çavusoğlu, 2005; Oruç, 2007).

In terms of physics teachers' expectation leadership behaviour and perception leadership behaviour points, there is significant difference ($t_{(56)}$=6.937, p<0.05). This situation is very remarkable. Thus, physics teachers stated that they did not display leadership behaviour as they expected from themselves. This result is the same as Beycioğlu and Aslan's (2010) results. However, regarding expectation and perception leadership behaviour points, there is not meaningful difference for age and seniority (p>0.05).

Physics teachers' attitude towards change points was significantly correlated with expectation part subscale of TLS r=,293 and perception part subscale of TLS (r=.316, p<.05). This correlation is at medium level. The existence of relationship between physics teachers' attitudes towards change points and leadership behaviour is very important (Çalik, 2003; Yeniçeri, 2002). As that relation reveals, there is subscale of TLS which is professional leadership subscale.

Physics teachers' burnout subscales points were significantly correlated with subscales of TLS in which there is a significant relation with personal accomplishment subscale and professional improvement leadership subscale (r=.403, r=.446, p<0.05). As it indicates physics teachers who displayed professional leadership behaviour highly, personal accomplishment subscale of burnout level is very highly, too.

Physics teachers, who are very important members of school system at secondary school, they gear a person working at area that technological and scientifically development of a nation. They have positive attitude towards change, display leadership behaviour frequency, come into prominence with professional improvement, have low level of burnout, these results are important in views of productivity of school management, development of leadership behaviour (Hale, 1998; Buckner and Mcdowelle, 2000; Beattie, 2002; Mayo, 2002; Haris, 2004; Murphy, 2005). In future researches, it can be investigated that measures how physics teachers' leadership behaviour develops, how burnout level decreases and how attitude towards change is transformed more positively.

Physics teachers who are very important members of school system at secondary school, training of individuals who are going to work technological and scientifically development of a nation. The findings suggesting they should have positive attitude towards change, often display leadership behaviour, come into prominence with professional achievement and have low level of burnout are also highlighted by researchers in views of productivity of school management and development of leadership behaviour (Hale, 1998; Buckner & Mcdowelle, 2000; Beattie, 2002; Mayo, 2002; Haris, 2004; Murphy, 2005). In future researches, it can be investigated that measures how physics teachers' leadership behaviour develops, how burnout level decreases and how attitude towards change is transformed more positively.

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THE RELATIONSHIP BETWEEN PERSONAL COHESION LEVEL WITH COMPUTER AND INTERNET USAGE AMONG UNIVERSITY STUDENTS

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ABSTRACT
The aim of this study is to investigate the relationship between computer-internet usage and personal cohesion as self-actualization, emotional stability, neurotic tendencies and psychotic symptoms among university students. The research was conducted among university students in TRNC. The sample for the research consists of 38,8% (n=80) female, 61.2% (n=126) male, 206 university students by using the criterion sampling method. "Hacettepe Personality Inventory (HKE) - Personal Cohesion Scale" developed by Özgüven (1992) and Biographic-Demographic Information Form used as a means of collecting data. Considering purposes of the study percentage documentation average, crosstab and Pearson Moment's correlation were figured out in data analysis. The statistical significance level was accepted as .05 in the study. The analysis of the data implies that there was a statistically meaningful strong positive correlation between internet usage and computer usage scores. This study showed that there is statistically significant correlation between personal cohesion as self-actualization, emotional stability, neurotic tendencies and psychotic symptoms with each other.
Keywords: Personal cohesion, computer usage, internet usage.

INTRODUCTION

Problematic internet usage and excessive internet access causes vulnerability of the users against the negative effects. The reasons of gradually increasing internet usage and usage times of individuals show diversity. Some users use the internet to get into communication as a daily technological life tool and to gather information. However other users use internet wrongly and in an unhealthy way. This wrong usage may negatively affect the most users' social and emotional functions and may cause harm to their mental health's, may limit their daily lives and increase their internet addiction (Ceyhan *et.al.,* 2007).

The internet addiction symptoms like other types of addiction symptoms. Withdrawal syndrome due to decrease in the internet usage, excessive mental effort on internet, spending hours even though being intended to spend couple of minutes, continuously feeling sleepless and tired because of staying connected to the internet until late, feeling more comfortable contacting people over internet than talking face-to-face, telling lies to family members, therapist or others to be able to stay connected to the internet and having affection changes in the duration of internet connection are the most common symptoms of internet addiction (Young, 1999; ref. Öztürk *et. al.2007*; ref. Balta and Horzum, 2008).

The risk of University students being affected from the negative consequences of the internet is much higher. Depending on the internet usage of students, it may cause problems such as mental business by internet, problems in interpersonal communication, being late / absent to the class, sleeping and appetite problems and unable to make close relationships (Kandell, 1998).

In the research of Serin Bulut (2011), students studying university at Turkish Republic of Northern Cyprus universities show a high level and significant correlation between problematic internet usage points and neuroticism, extroversion, psychotism, lie, life satisfaction, loneliness variables. Problematic internet usage and sub dimensions of social support, loneliness-depression, and decreased stimulation control and distraction levels show a significant difference according to the gender.

Adolescents' excessive usage of internet and computer games are using it as a strategy to fight with negative emotions such as fears, discomfort and disappointment, increase the tendency towards internet (Lim et. al., 2004).

The need to spend increasing amounts of time on computer activities such as playing games, arranging files or participating in online discussion groups are indicated by psychological tolerance. Computer users are aware of this problematic behavior but they continue to use the computer compulsively. When a person is unable to access a computer they showed that withdrawal symptoms are indicated by an increase in irritability and anxiety (ref. Orzack, 1998). Long-term use of computer and internet user has also observed a lot of health problems: decreased hours of sleep, disruption in family relationships, lack of yield and failure (Cengizhan, 2005).

Cohesion behavior is defined as the degree of meeting the individual's personal independence and social responsibility. Depending on the degree of their lives the individual develops more effective attitudes depending on his/her life. All these behaviors occur in the form of a chain. Behavior in itself is a chain process that contains both cognitive and behavioral elements (ref. Toy, 2006). According to Özgüven (1992) personal cohesion has determined as four categories. These are self-actualization, emotional stability, neurotic tendencies and psychiatric symptoms. Self-actualization refers that the behavioural features of person is related with properties such as self-reliance, being aware of self-talents, able to take decisions by themselves, able to express own truths, being in a feeling of accepted and useful (Doğan, 1991).

People with higher emotional stability generally show self-confidence, less mourning and less likely to be touchy properties. They mostly show a calm and peaceful impression, rarely require advice from others and tend to take their own decisions, do not draw back from emerging new and strange conditions and show effective behaviours during emergency conditions. People with lower emotional stability generally are worried and tense, during trouble they do not hold their tears and behave as either fearful or shy or excessive attacking or quarrelsome when they face a new condition (ref. Sardoğan *et.al.,* 2006; Özgüven, 1992).

People with neurotic symptoms complain about one or more of the psychosomatic symptoms such as chronic tiredness, headache, insomnia, visual defects, lack of appetite and etc. Neurotic people generally show their emotional conflicts by physical ways. Moreover, neurotic tendencies include behaviours like being perfectionist, not open to criticism and not accepting their self as it is. People with neurotic tendencies will not impaired reality testing and social cohesion (Öztürk, 2001; ref. Herken *et.al.,* 2000).

People with of psychotic symptoms show tendency to dream, being unable to concentrate on one thing, prefer being alone and keeping away from other people. These individuals have a lot of thoughts about themselves. Psychotic people generally corrupt to their social adaptation, touchy and excessive emotional (Öztürk 2001; Güleç, Köroğlu, 1997).

Computer and internet usage, which is defined as a new type of addiction, became an important study area that attracts the interest of different disciplines including psychology, sociology and communication (Balcı, Gülnar, 2009). The present study was conducted to determine the personal cohesions as a self-actualization, emotional stability, neurotic tendencies and psychotic symptoms of students depend on internet usage habit. This study aimed to be developed new perspective for academics, educational programmer, teachers, managers etc. to their own researches.

The Aim of the Study
The purpose of this study is to analyze the relationship between personal cohesion and computer-internet usage among university students.

The Problem Statements of the Study
The main problem statement of the study: "Is there any statistical meaningful correlation between personal cohesion and internet-computer usage among university students?" The following sub-questions were answered in order to reach the result of the main problem.

1. Is there any statistical meaningful correlation between daily computer usage and personal cohesion?
2. Is there any statistical meaningful correlation between daily internet usage and personal cohesion?

RESEARCH METHODOLOGY

Research Design
The research was made by descriptive type of associational research method. The aim of the descriptive perspective is to determine related cases. This type of research aimed to evaluate the level and the variation together between two and more variables (Karasar, 2009).

The Universe and Sample of the Study
The universe of this research is consists of university students in North Cyprus. The sample for the research consists of 38.8% (n=80) female, 61.2% (n=126) male, 206 university students used by purposive sampling techniques of criterion sampling method. The students have their own personal computer set as criteria.

Instruments
In the collection of data "Hacettepe Personality Inventory (HKE) – Personal Cohesion Scale" and Biographic-Demographic Information Forms were used. Biographic and Demographic Information Form is prepared by the researchers and it is arranged according to the suitability with the aims of the study. It is formed of 17 questions. In this form people are subjected to demographic features and computer-internet related questions. "HKE - Personal Cohesion Scale" which has four subscales was developed by Özgüven. The mean of Cronbach's alpha reliability coefficient of these subscales was .93. These subscales are self-actualization, emotional stability, neurotic tendencies and psychotic symptoms. Hacettepe Personality Inventory has a reliability subscale. A higher score of reliability subscale indicates that the individual carefully read each item to respond to reviews with insight and conscious, paper fill out a reliable of the inventory answering behavior (Özgüven, 1992).

Data Analysis
All analysis are performed by using the SPSS 15.0 for Windows. Considering purposes of the study percentage documentation average, crosstab and Pearson moment's correlation were figured out in data analysis. The statistical significance level was accepted as .05 in the study.

RESULTS
In this study is formed from 38.8% (n=80) female, 61.2% (n=126) male, 206 students who have distinguished by personal computer criteria. They had applied to the university students.

Table 1. Gender Frequency Distribution by Daily Computer and Internet Usage Duration

Daily Duration	Gender			
	Female		Male	
	n	(%)	n	(%)
Computer Usage	7	8.75	11	8.73
No Daily Usage	30	37.50	42	33.40
1-3 hours	27	33.75	33	26.20
4-5 hours	9	11.25	32	25.40
6-8 hours	7	8.75	8	6.35
8 hours and above	**80**	**100**	**126**	**100**
Total				
Internet Usage	9	11.25	15	11.90
No Daily Usage	29	36.25	47	37.30
1-3 hours	26	32.50	36	28.57
4-5 hours	11	13.75	20	15.88
6-8 hours	5	6.25	8	6.35
8 hours and above	**80**	**100**	**126**	**100**
Total				

Percentage documentation average and crosstab were applied in order to determine gender frequency distribution by daily computer and internet usage duration of students, as shown in Table 1.

The analysis of the data implies that mostly 1-3 hours daily computer usage duration both female 37.5% (n=30) and male 33.4% (n=42) were found. In daily internet usage duration mostly 1-3 hours both female 36.25% (n=29) and male 37.3% (n=47) were found. In the second most important result is 4-5 hours computer usage duration of female 33.75% (n=27) and male 26.20% (n=33). In addition to this result was 4-5 hours daily internet usage duration of female 32.50% (n=26) and male 28.57% (n=36).

Table 2. Correlation of Personal Cohesion Subscales Test Scores with Computer – Internet Usage Scores

	Computer Usage	Internet Usage	Self-Actualization	Emotional Stability	Neurotic Tendencies	Psychotic Symptoms	Personal Cohesion
Computer usage							
r	1	.805**	.122	.067	.099	.126	.120
n	206	206	206	206	206	206	206
p		.000	.080	.340	.157	.071	.086
Internet usage							
r	.805*	1	.037	.031	-.006	.050	.032
		206	206	206	206	206	206

n **p**	* 206 .000		.594	.661	.937	.476	.643
Self-Actualization **r** **n** **p**	.122 206 .080	.037 206 .594	1 206	.580** 206 .000	.601** 206 .000	.590** 206 .000	.801** 206 .000
Emotional Stability **r** **n** **p**	.067 206 .340	.031 206 .661	.580** 206 .000	1 206	.727** 206 .000	.712** 206 .000	.881** 206 .000
Neurotic Tendencies **r** **n** **p**	.099 206 .157	-.006 206 .937	.601** 206 .000	.727** 206 .000	1 206	.703** 206 .000	.883** 206 .000
Psychotic Symptoms **r** **n** **p**	.126 206 .071	.050 206 .476	.590** 206 .000	.712** 206 .000	.703** 206 .000	1 206	.874** 206 .000
Personal Cohesion **r** **n** **p**	.120 206 .086	.032 206 .643	.801** 206 .000	.881** 206 .000	.883** 206 .000	.874** 206 .000	1 206

**

p<.001 statistically meaningful correlation

The sub-questions of the research were expressed as “Is there any statistical meaningful correlation between computer usage and personal cohesion?” and “Is there any statistical meaningful correlation between internet usage and personal cohesion?”

Pearson Moment’s Correlation Test was applied in order to determine whether there is a statistically meaningful correlation between Hacettepe Personality Inventory – Personal Cohesion Scale and computer-internet usage score of the students, as shown in Table 2.

The analysis of the data implies that there was a statistically meaningful strong positive correlation between internet usage and computer usage scores (r=.805).

Statistically meaningful strong positive correlation was found between personal cohesion and self-actualization (r=.801), emotional stability (r=.881), neurotic tendencies (r=.883), psychotic symptoms (r=.874) subscale scores. There was statistically meaningful moderate positive correlation between self-actualization and emotional stability (r=.580), neurotic tendencies (r=.601), psychotic symptoms (r=.590) subscale scores. There was statistically meaningful strong positive correlation between

emotional stability and neurotic tendencies (r=.727), psychotic symptoms (r=.712) subscale scores. Statistically meaningful strong positive correlation was found between neurotic tendencies and psychotic symptoms (r=.703) subscale scores.

There was no statistically meaningful correlation with daily computer and internet usage scores with self-actualization, emotional stability, neurotic tendencies, psychotic symptoms and personal cohesion subscales.

DISCUSSION

In this study the main aim is to examine the relationship between social cohesion and computer-internet usage in a group of university students who have a personal computer. The present study; level of computer-internet usage not severely affected the personal cohesion in this group.

Children and adolescents are the groups that are under high risk of being affected by the negative effects of internet. Internet usage habits and possible risks show diversity among different cultures. Tahiroglu *et. al.* (2008) stated in their study that 44.6 % university students use internet for 1-2 hours in a week. It is seen that 7.6 % of the participants use internet for more than 12 hours in a week. The users that make general investigations or other works towards school, rare users or non-users were stated as spending 1-2 hours in a week on internet. Similarly, aim of low internet users is to make general investigations and work towards school and low users make this more than the moderate and high users. It was reported that boys use internet more than girls.

Yang (2002) stated that daily users spend approximately 1.5-2 hours in front of the computer. Adolescents are reported to be the group that is under maximum risk together with internet addiction is seen at different cultures (ref. Yen et. al., 2008). Besides the positive results, students being close to internet technologies could result in the formation of unwanted situations such as pathologic internet usage (Nalwa, Annand, 2003).

According to the researches by Yang and Tunga (2004), internet addictive users use internet 21,2 hours in a week and non-addicted users use internet for approximately 12,1 hours per week. The research carried out by Morahan and Schumacher (1997), college students stay connected to the internet for an average of 8,48 hours per week. The reason for this amount of time they are spending on the internet is that they do not have people to communicate and they do not have close neighborhood.

Simkova and Cincera (2004) study showed that students spend too much time on the internet and many of them felt it was a problem. Research is also emphasizes that more serious chat users has shown more problems than other university students. It was determined by Koch and Pratarelli (2004) that among university students, introverted individuals use internet much more than others and males use internet for opposite sex oriented activities more than females.

According Kelleci *et.al.'s* (2009) research found that there is a difference in internet usage times between genders, especially, female students percentage of internet usage over 5 hours is 4.5% and males percentage is 16,8%. Exceeding 2 hours internet usage time, both genders show a similar ratio of spiritual symptoms. The research carried at China among 12-18 aged students, non-addicted students use internet 3.1 hours per week, addicted group use 11.1 hours per week. When these two groups compared according to their psychological properties, it was determined that addicted group show more psychological, emotional and social problems (Cao & Su 2007).

In this present study it was determined that most of the students use 1-3 hours computer and internet during a day. So it is a cause of personal and familial problems and shows us probably most of the students to be at risk for computer-internet addiction when the previous studies compared. In this study it was found that there is no difference of the daily duration of the usage of computer and internet between male and female users.

CONCLUSION

In this research studied with university students in Northern Cyprus about relationship between computer-internet usage and personal cohesion. The main aim of this study to provide information about the computer-internet usage periods and preventive activities of the resource is to be made by the counselors. This study indicates that computer-internet usage duration was no relation with the personal cohesion with university students. In addition, the daily duration of computer-internet usage that may occur within the framework of a relationship with personal cohesion processes will be able to source for internet addiction prevention efforts in the direction.

In this study, it was focused on the university students that use their own personal computer and their personal cohesion. Only adolescents who attend university and who have families with higher socio-economical status and education participated the study. Low socio-economical status of the family, low education may be some other factors related with computer-internet usage and personal cohesion, a sample having wide range of these characteristics should be formed. Having a large sample of students with different backgrounds may enable to generalize the results to the community. Therefore the further studies could be applied to other age groups like secondary and high school students, a varity of views may occur. For new researches it is suggested that on experimental studies may be applied areas of computer-internet usage and computer-internet addiction.

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CREATIVITY AND CHINESE EDUCATION REFORM

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Abstract
Although Chinese educational reform has focused on creativity and innovation for over a decade, the transfer of educational philosophy to practice has not yet occurred. Creative industries in China are still seen as imitative. The main barrier for Chinese students becoming more creative and innovativemay be the culture itself, which is modeled after Confucian philosophy and does not allow secondary students to act divergently or question any authority. In spite of sparse success in transforming education to focus on more student-centered approaches, the Chinese government still seeks to develop their creative industries through education reform away from test-focused, rote instruction to student-centered creative practices.
Keywords: education reform, Creativity, Chine

INTRODUCTION

While the United States has been focusing on standards, standardized testing, and accountability, China, on the other hand, has been furiously promoting creativity as a vital component of its education system since 2000 (Preus, 2007; Sargent, 2009; Wang, 2010; Zhou, 2009). At the dawn of the 21st century, Chinese educational leaders saw the lack of creativity as a barrier to being successful and globally competitive (Sargent, 2009). Chinese education reform at that time was designed to move from lecture and rote learning to student-centered teaching methods, including cooperative learning, discovery methods, and project-based learning activities (Wang, 2010).

At the core of the reforms, Chinese leaders saw and still see education as vital to China's development as a global and political power and feel that the social interactions in traditional Chinese classrooms before the reforms were not conducive to cultivating creativity and innovation (Sargeant, 2009). China's Eleventh Five-Year Plan of 2006 additionally placed fostering creativity as a priority for the country (Vong, 2008). To stimulate creativity, state and local governments and teachers were to be given more control over the development and selection of textbooks, as well as more of a voice in developing a flexible curriculum (Preus, 2007).

To reform education to the quality education model, the Chinese government looked to other leading Asian nations such as Japan, Singapore, and South Korea. Western influence is also apparent, particularly with interest in student-centered learning and learning by doing models (Dello-Iacovo, 2009). Quality education, which is the core of Chinese education reform, is seen as a holistic approach which focuses on the whole person and is a reaction against "examination-oriented" education that has existed in China for well over 1000 years, including imperial China, with rote memorization and recitation being the standard teaching methods (Dello-Iacovo, 2009; Wang, 2006).

However, after over a decade of educational reforms that focused on evolving to a "quality-oriented" model from a test-driven one, there is no evidence that the reforms have had any significant positive impact on teaching and learning in China (Liu & Dunne, 2009). Researchers claim that all educational decisions and actions still focus on the Chinese examination system, which gives the purpose of learning as answering test questions successfully to get to the next

school level (Gu, 2010; Liu & Dunne, 2009). Additionally, an even greater disparity between the reform efforts and the results exists in rural China.

Many rural and remote regions of China are underserved by the Chinese government (Rong& Shi, 2001). This is due to numerous "ideological, philosophical, and strategic disagreements" (p. 107) among political leaders and educational experts. At the beginning of the new reform era, Rong and Shi (2001) found that making an assessment of China's education system was difficult because of the lack of data on rural schools and because of the lack of reliability, validity and consistency of Chinese sources.

Wang's (2010) case studies of rural classrooms, in fact, found that rural teachers did not adapt the 2001 education reforms, and students are still passive participants who sit quietly through reading and rote memorization. In rural schools, lecturing still takes up most of the class time. The researcher reports that for rural teachers, time is an issue in teaching a national curriculum and schedule with standards that are too high with a scheduled pace that is too fast. The researcher suggests that whole-class lecture gives teachers control of the pace and aids in the teachers being able to complete the textbooks much more quickly than a student-centered classroom would allow.

Rural schools may also be affected by funding and staffing inequities. There is a shortage of senior secondary teachers in rural areas, pushing class sizes to around 100, compared to urban and suburban class sizes of 50 (Dello-Iacovo, 2009). The large class sizes may be a further barrier to implementing the reforms.

In all areas of China, however, culture may be the biggest barrier in incorporating creativity to achieve the goals of "quality education."Studies about teaching and learning in China completed by both Western and Eastern researchers have typically characterized the Chinese as less creative, due in large part to Confucian philosophy that values collectivism, hard work, and respect for authority (Burton, 2010). Ng (2001) describes this perceived creativity gap in his book *WhyAsians are Less Creative than Westerners.*

In a study examining the societal influence on how people evaluated creativity, Nui and Sternberg (2003) used a sample of Yale art students and art students from Beijing University and compared their works. The results of the study suggested that the difference between American and Chinese students' creativity had more to do with environmental factors, like values and school environments, rather than ethnicity. The results further showed that educators in China have a tendency to overlook the practice of teaching creativity in place of "basic knowledge and analytical skills" (Nui & Sternberg, 2003, p. 108).Nui and Sternberg claim that Chinese artwork is considered to be less creative than American artwork by both American and Chinese judges because Chinese students exceed in the academic domains more so than the creative ones. The researchers believe that this is a result of American society embracing individualism while Chinese society preaches conformity.

In researching the perception of creativity among undergraduate students in the Chinese cities of Beijing, Guangzhou, Hong Kong, and Taipei, Rudowicz and Yue (2000) discovered that "humorous" and "artistic," often identified as creative traits in Western culture (Kaufman & Sternberg, 2005), were missing from the Chinese students' perceptions of creativity. In a similar study, Yue and Rudowicz (2002) asked undergraduate students from the same cities to identify the most creative Chinese people in history and in modern day China. Artists, musicians, and

business people were rarely cited. Politicians were perceived as the most creative, followed by scientists and inventors. The researchers linked these perceptions to strong utilitarian views of creativity.

In a study of 204 Hong Kong primary and secondary teachers, Chan and Chan (1999) found that Chinese teachers regarded some characteristics of creative students as socially undesirable, which is counter to the perceptions of teachers from the United States in similar studies. The researchers state that it is common in the Chinese culture for teachers to regard nonconformity as rebellious and expressive behavior as arrogant. However, the traits of being imaginative, artistic, and inquisitive were seen as positive creative traits in the Hong Kong study.

Ng (2001) views creativity as an individualized behavior in developing novel ideas in a specific domain. To Ng, culture heavily influences how a person acts in society, either engaging in creative and individuated behavior or going along with the majority and conforming. Consequently, in a culture dominated by Confucianism, individuality is not encouraged. In Confucianism, the teacher-student relationship is seen as all pervasive and strict, impeding free exchange between the two (Ho & Ho, 2008). Students are to be humble and obedient and not allowed to question authority. Ho & Ho characterize this relationship by identifying common patterns in Chinese students: fearful of teachers; maintaining respect, at least superficially, in front of teachers; criticizing teachers behind their backs; keeping affective distance from teachers; and adopting silence and passive resistance to deal with teachers' demands. Steers (2009) is critical of such a student-teacher relationship and states that a strong atmosphere of mutual trust between student and teacher must be in place for creativity to be allowed. There must be probing questioning on both sides with constructive and positive feedback to allow for risk-taking to take place and for creativity to be allowed to flourish. Therefore, the Confucian ideology runs contradictory to the 21st century realization of the need for creativity and innovation in today's global economy.

Asian nations have recognized this and have made creativity an essential component to educational reform. To change education, these countries are affecting cultural change or attempting to do so. Yao, Yang, Dong, and Wang (2010) see the cultural influence of *Zhong Dong*, the Confucian doctrine that emphasizes taking a balanced approached to problems in order to find harmony, as hindering the translation of creative ideas to innovative products in the Asian workplace post high school and university study.

Not all researchers, however, find rote practices as negative. Watkins (2000) argues that Chinese teaching practices are misunderstood by Western educators. The researcher feels that the use of memorization is not just limited to rote learning but is also used dually to apply to meaning for a stronger understanding. Additionally, Watkins finds that Chinese teachers also incorporate questioning techniques; however, the emphasis on questioning does not appear during the process of learning, rather it is comes after the students have learned independently. He warns that a number of basic concepts of Western education need to be reconsidered in comparing it strictly with the Chinese classroom because of major cultural differences in teaching approaches.

If creativity is perceived differently in the East, it is not a surprise that it is not valued in Chinese teacher training programs. In a study focusing on pre-service training of Chinese teachers, Campbell and Hu (2010) found that not much time is spent on creativity and innovation during teacher preparation. They found that very little had changed since the introduction of educational reform in China and see the practicum system as a passive process where the mentor teacher

serves as the model, which is likely to encourage the continuation of traditional practices rather than encouraging innovative teaching strategies. In another study, Lai (2011) found that teachers faced difficulties with implementing the reforms, that school-based professional development was top-down and not participatory, and that teacher trainers mainly instruct practical teaching techniques rather than encouraging teacher reflection.

The Chinese government, however, remains committed to reforming education to foster creativity & entrepreneurialism despite high scores on international exams, particularly in math (Zhao, 2012). In 2010, the Chinese government released a draft copy of "The National Guidelines for Medium and Long-Term Educational Reform and Development, 2010-2020 (Gu, 2010). In the document, innovation was the key focus in helping the country undergo a shift from a labor-intensive economy to a knowledge and technology-driven one. Gu (2010) believes that in implementing educational reforms, China has to work through numerous issues. The researcher cites that China has to overcome "antiquated educational ideas, outdated contents and methods, weak adaptability of school leavers, and a shortage of trained personnel who are innovative, practical or possessing multiple qualifications or skills (p. 307)." Additionally, part of the guidelines discuss reforming college entrance examinations and admission by recognizing the negative effects of testing from "letting the result of one round of exams decide the destiny of a student's life" to allowing applicants to make multiple choices and establishing a National Education Examination Steering Committee (Gu, 2010, p. 301). The guidelines also promote the extension of international cooperation and exchanges.

In a speech by the People's Republic of China's president, Hu Jintao, made at the National Education Work Conference in Beijing five months after the release of the new guidelines, President Jintao championed the need for creativity and innovation. He spoke about teacher training and pedagogical strategies:

We must introduce an innovative model for training skilled personnel to meet the needs of national and social development; follow the laws of education and the laws governing the growth of talent; pay attention to combining learning with thinking, integrating knowledge with practice, teaching students according to their aptitude; adopt innovative education and teaching methods; promote heuristic, inquiry-oriented, discussion-based, and participatory teaching; arouse students' curiosity; arouse students' initiative; encourage students to think creatively; and change the method of education that is based solely on feeding information. (BBC, 2010, p.1).

These goals are not different from the blueprint set out a decade earlier. It remains to be seen whether the barriers of culture and tradition can be overcome to meet the vision the president outlined.

There are some signs of transformation for China to move to a concept-minded economy and mindset. Creative industries are quickly gaining momentum in China. Creative industries are sectors in which the product or service contains artistic and creative endeavors (Caves, 2000). In recent years, China has experienced more growth in the creative industries than other sectors in many regions, in both large and second-tier cities. In 2007, the general GDP growth in Beijing was 12.3 percent, as opposed to that of the creative industries in the city which reached 19.4 percent (Li, 2011). Li (2011) states that cultural creativity does not have to be exclusive to creative industries but to all industries, thereby increasing competitiveness with the rest of the world.

In his book *China's Creative Imperative,* Sinha (2008) recognizes that China's place as a creative center relies on a shift in mindset by businesses. He identifies and debunks several myths about the Chinese people in relation to creativity and strongly believes that the structure of "quality education" will help revolutionize the creative spirit of the Chinese.

On July 6, 2012, President Hu Jintao again reinforced China's need to be more innovative, emphasizing high quality education, the creation of social incentives for creativity, and for more of a mix in creative industries with Chinese and foreign businesses. According to the report from the Oxford Analytica (2012), the statement comes after several major internal reports that described China's technologies as imitative, not innovative.

Despite the reforms, Chinese education is still currently driven by the high-stakes college entrance examination, which Zhou (2009, 2012) finds to be harmful to individuals and the country. The objectives of more flexibility in curriculum, educating the whole child, cultivating a culture of independent thinking, and less testing have not yet been achieved.

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AN INVESTIGATION OF THE RELATIONSHIP OF LEARNING AND COMMUNICATION STRATEGIES, GENDER, AND READING PROFICIENCY IN ENGLISH AS A FOREIGN LANGUAGE

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Abstract
The present study investigates the relationship between the types of learning and communications strategies used by male and female college learners and their achieved levels of proficiency in reading English as second language. In addition, the study looked into the question of whether low and high proficient EFL readers differ in their use of the six categories of strategies as measured by the Strategy Inventory for Language Learning, SILL, Oxford (1990). A total of 86 participants completed the 50 Likert-type items of SILL and include 6 types of strategies (metacognitive, social, compensatory, cognitive, memory, and affective). In addition, a 50-multiple choice question TOEFL test was administered to all participants in the study as a measure of reading proficiency. Descriptive statistics (means and Standard Deviations) and simple Pearson correlation coefficients were computed between the scores of the sub-scales of the SILL instrument and the participants reading scores on the TOEFL test. In addition, a two-way multivariate analysis of variance (MANOVA) test was used to address the questions raised in the study regarding whether gender and proficiency level (high versus low) have had effect on the use of the SILL six categories of strategies. The results showed no statistically significant relationship between proficiency and memory, compensation, and metacognitive strategies. However, the data showed that reading proficiency is positively related to cognitive strategies and negatively related to social strategies. The results also revealed no statistically significant difference between males and females in their overall use of strategies. Yet, although the results of the univariate analysis revealed no statistically significant differences across gender with regard to the use of memory, cognitive, compensatory, affective strategies, and social strategies, there was a statistically significant difference in the level of the use of metacognitive strategies in favor of the females. The results also revealed a statistically significant difference between high and low proficiency students in their overall use of strategies and the results of the univariate analysis showed that the low proficiency students use more memory and affective strategies more than their high proficiency counterparts. Conversely, the high proficiency students use more cognitive strategies. Finally, the results showed no statistically significant differences across the levels of proficiency with regard to the use of compensatory and matacognitive strategies. The Results are discussed in light of previous research findings and recommendations for further research are discussed.
Keywords: communication strategies, foreign language, reading proficiency in English

INTRODUCTION

Recent decades have witnessed an increasing interest among second language researchers and practitioners in identifying and describing a number of cognitive, affective, and sociocultural factors as possible determinants of proficiency (Brown, 2000; Nisbet, Tindall, &Arroyo, 2005). Previous research (e.g., Dreyer & Oxford, 1996; Lightbrown & Spada, 1999; Vance, 1999) have observed that some second language learners actually acquire English as a second/foreign language (ESL/EFL) more quickly and effectively than others"(cited in Nisbet et al, 2005, p.100). Furthermore, several studies have been conducted to determine the factors and conditions that may account for variation in the proficiency of learners studying a language other than their own (Bremner, 1999; Oxford, 2001; Oxford & Burry Stock, 1995; Park, 1997). The results of these studies, among others, have suggested a number of variables including the cultural background, motivation for learning, attitudes and beliefs, learning and cognitive styles, learning and communication strategies, and the gender of learners as possible correlates of second language proficiency.

The variables of language learning and communication strategies and gender have received much attention from second language (L2) researchers and practitioners alike. For instance, Oxford (1990) designed a strategy assessment survey (SILL) which has been used extensively to determine the learning and communication strategies of L2 learners. This survey consisted of 50 Likert-type items based on a strategy classification scheme that included the six categories of memory, cognitive,

compensatory, metacognitive, affective, and social strategies. The memory strategies (items 1-9) help learners remember and retrieve information through creating mental linkages, using images and sounds, and applying action. Cognitive strategies (items 10-23) help learners process and create new language through practice, analysis and reasoning, communication, and creating structure for input and output. Compensatory strategies (items 24-29) help learners make up for gaps in their proficiency through guessing and overcoming limitations in speaking and writing. Metacognitive strategies (items 30-38) enable learners to take control over their own learning by organizing, planning, and evaluating their learning. Affective strategies (items 39-44) help learners control their feelings of anxiety, attitudes, and motivation. Finally, social strategies (items 45-50) encourage interaction among learners through cooperation, empathy and asking questions.

Numerous studies have used the SILL instrument and established a possible link between the frequency of strategy use and learners' gender on the one hand, and the level of proficiency on the other. According to Green and Oxford (1995), Lan and Oxford (2003), and Nyikos and Oxford (1993) proficient readers report higher frequency of strategy use than their less proficient peers. Similarly Bruen (2001) and Ramirez (1986) have both reported that a positive relationship exists between language proficiency levels in German and French respectively and the years of language study. Along similar lines Park (1997) reported that the SILL learning strategies are positively related to English proficiency of Korean university students as measured by a practice version of the Test of English as a Foreign Language (TOEFL). Furthermore, this researcher concluded that the cognitive and social strategies are more predictive of TOEFL scores than other strategies. Similarly Khalil (1995) explored the effect of language proficiency and gender on frequency of strategy use among Palestenian university and high school students. The findings of this research have shown that proficiency level and gender have a main effect on overall strategy use, but their effects on the use of the six categories of strategies are variable. Conversely, Nisbet, Tindall, and Arroyo (2005) report that the SILL strategies accounted for only 4% of the variation of TOEFL scores of Chinese university students and that males and females did not differ in the frequency of using language learning strategies.

More recently, Wong and Nunan (2011) reported some significant differences between effective and less effective language learners. For instance, effective learners like to watch and listen to native speakers, see English words, watch TV in English, converse in English, and learn many new words more than their less effective peers. Conversely, less effective learners were more likely to expect teachers to tell them about their mistakes as well as help them to talk about their interests. Furthermore less effective learners like to have their own textbooks and learn new words by doing something.

On the other hand, McMullen (2009) reported that Saudi female college students used slightly more language learning strategies than male students. This researcher also reported that computer science students used slightly more language learning strategies than those students majoring in management information systems. Along similar lines, Kyungism and Leavell (2006) reported that language learners who use more strategies advance along the proficiency continuum faster than their counterparts who use less strategies. Furthermore, these researchers found that students prefer metacognitive strategies most and showed the least use of affective and memory strategies. Finally, female students were found to have tendency to use social and affective strategies more than males.

The preceding review of related studies suggests that the relationship between gender and language proficiency on the one hand and language learning strategies on the other may be context- specific and controversial. Consequently, there is a need for further investigations of the role of strategies and gender in various cultural and linguistic contexts as suggested by Park (1997). The purpose of the present study is to investigate the relationship between the types of learning and communications strategies used by male and female learners and their achieved levels of proficiency in reading English as second language. In addition, the study looked into the question of whether low and high proficient EFL readers differ in their use of the six categories of strategies measured by SILL. Specifically, the following research questions were investigated:

1. Are there statistically significant relationships between the categories of learning and communication strategies identified by Oxford (1990) namely, memory, cognitive, compensation, metacognitive, affective, and social and reading proficiency?
2. Are there statistically significant differences in reading proficiency and learning and communication strategies by gender?
3. Is there a statistically significant difference between low and high proficient readers and their reported use of communication and learning strategies measured by SILL?

Method

Instruments and Study Tools

The strategy Inventory for Language Learning (50 – item, version 7.0 for ESL/EFL) developed by Oxford (1990) was used to collect data for the present study (see Appendix). The SILL is a self reporting survey that consist of 50 Likert-type items to which respondent indicate on a 5 point scale their level agreement with the statements. This survey included 6 types of strategies (metacognitive, social, compensatory, cognitive, memory, and affective) that have been identified both theoretically as well as through previous factor analyses (Oxford 1990). Table 1 lists the types of strategies and their Cronbach alpha values based on data from the present study.

Table 1 Scales Included in the strategy Inventory for Language Learning (SILL)

Scale	No. of Items	Alpha Reliability	N
Memory	9	.61	76
Cognitive	14	.54	73
Compensatory	6	.40	76
Metacognitive	9	.82	78
Social	6	.66	77
Affective	6	.55	80
Total	50	.82	60

In addition, a 50-multiple choice question TOEFL test was administered to all participants in the study as a measure of reading proficiency. This test was completed in 50 minutes. Finally, the participants completed a questionnaire that investigated the gender and major field of study of each participant.

Participants and Study Context

The participants were a total of 86 university students who are majoring in medicine (10), science (10), computer 17, business 40, 4 major-less, and 5 with missing data regarding the major field of study. Furthermore, there were 51 male students (59.3%) and 35 females (40.7%). However, the number of cases, as will be shown in the subsequent pages, have declined due to the introduction of the list-wise deletion of missing cases when the statistical tests were run to address the questions raised in the study.

The study context is a relatively prestigious institution of higher learning located in Beirut, Lebanon, that follows the American model of education. Students enrolled in this institution normally come from high socio-economic backgrounds and have a high proficiency level given that they are admitted based on acceptable scores on the Scholastic Aptitude Test (SAT) and their school ranking in their high schools. The language of instruction is English and students are expected to function in an all-English curriculum in their respective fields of study.

Data Analysis

Six composite scores were computed for each participant by adding the scores on the sub-scales in the SILL instrument respectively measuring the strategy types. Descriptive statistics (means and Standard deviations) and simple pearson correlation coefficients were computed between the scores of the sub-scales of the SILL instrument and the participants reading scores on the TOEFL test. This was inorder to address question 1 regarding the relationships of the learning and communication strategies and reading proficiency.

In addition, a two-way multivariate analysis of variance (MANOVA) test was used to address the second and third questions raised in the study regarding whether gender and proficiency level (high versus low) have had effect on the SILL six categories of strategies. The gender variable with two levels (male versus female) and the proficiency level also with two levels (high versus low) were used as independent variables. The levels of proficiency were determined based on the median score of *Md* = 34.50 on the TOEFL reading scores of the participants. The dependent variables consisted of the categories of strategies measured by SILL.

Results

Table 2 Pearson Product Moment Correlation Coefficient and Descriptive Statistics for reading Proficiency and Language Learning Strategy

	Reading Proficiency r	**P**	**N**
Memory	-.13	.28	66
Cognitive	.21	.08	64
Compensatory	-.17	.15	67
Metacognitive	.07	.52	70
Social	-.18	.12	70
Affective	-.31**	.00	69

** significant @ p L.00

The data show no statistically significant relationship between proficiency and memory strategies (r = -13, p = .28), compensation strategies (r = .17, p = .15), metacognitive strategies (r = -07, p = .52). However, the data show that reading proficiency is positively related to cognitive strategies at $p < .1$ alpha level (r = 21, p = .08) and negatively related to social strategies at $p < .00$ (r = -.31, p = .00).

Table 3 presents descriptive statistics, *F* values, and levels of statistical significance on variations in the use of strategy categories by gender.

MANOVA Results on significant variations in use of categories of strategies by Gender								
SILL Category	Male (n = 34)		Female (n = 26)		df	F	P	Comments
	M	SD	M	SD				
Memory	24.79	4.87	25.92	6.00	1,58	.64	.42	NS
Cognitive	44.488	4.99	45.92	6.41	1,58	.50	.48	NS
Compensatory	19.00	3.37	18.53	3.55	1,58	.26	.61	NS
Metacognitive	29.38	5.74	32.02	7.23	1,58	2.51	.11	F>M

Affective	15.32	4.29	16.57	4.71	1,58	1.15	.28	NS
Social	17.97	4.60	18.30	4.94	1,58	.07	.78	NS

The results reveal no statistically significant difference between males and females in their overall use of strategies F (6,53) = .62, p =.70. Furthermore, the results of the univariate analysis revealed no statistically significant differences across gender with regard to the use of memory strategies F(1,58) = .64, p = .42, cognitive strategies, F (1,58) = .50, p = .48, compensatory strategies F (1,58) = .26, p = .61, affective strategies F (1,58) = 1.15, p =.28, and social strategies F(1,58) = .07, p = .78. However, there was a statistically significant difference in the level of the use of metacognitive strategies in favor of the females F (1,58) = 2.51, p =.11.

Table 4 presents descriptive statistics, *F* values, and levels of statistical significance on variation in the use of strategies by level of proficiency.

MANOVA Results on significant variations in use of categories of strategies by Proficiency Level								
SILL Category	High (n = 34)		Low (n = 26)		F	df	P	Comments
	M	SD	M	SD				
Memory	23.96	4.67	26.47	5.43	3.20	1,50	.07	L>H
Cognitive	46.34	4.98	43.78	6.36	2.65	1,50	.11	H>L
Compensatory	18.62	3.38	18.52	3.84	.04	1,50	.83	NS
Metacognitive	30.79	5.97	29.34	6.32	.71	1,50	.40	NS
Affective	14.68	4.28	17.17	4.58	4.04	1,58	.05	L>H
Social	17.58	4.17	18.30	5.24	.30	1,58	.58	NS

The results reveal a statistically significant difference between high and low proficiency students in their overall use of strategies at the p <.1 alpha level F (6,45) = 1.72, p =.13. The results of the univariate analysis show that the low proficiency students use more memory strategy than their high proficiency counterparts F (1,50) = 3.2, p = .07. Likewise, the low proficiency students use more affective strategies F (1,50) = 4.04, p = .05. Conversely, the high proficiency students use more cognitive strategies F (1,50) = 2.65, p =.11. Finally, the results show no statistically significant differences across the levels of proficiency with regard to the use of compensatory strategies F (1,50) = .04, p =.83, matacognitive strategies F (1,50) = .30, p =.58.

Discussion

The results of the present study suggest the following aspects of interest. Firstly, the memory, cognitive, compensatory, metacognitive, and social strategies are not related to proficiency as measured by reading comprehension. This finding is in agreement with the findings of Nibset, Tindall and Arroyo (2005) who reported that the SILL strategies accounted only for 4% of the variation in the TOEFL scores of Chinese university students. One possible explanation of these findings is that students in the present study are unaware of the range of strategies measured in SILL and that the reading task they performed did not call for the use of the compensatory and social strategies. Second, the results did not indicate any statistically significant difference in the use of strategies between males and females except in the use of metacognitive strategies. That is, the results indicated that the females tended to monitor their own learning of English through thinking about their progress in the acquisition of the language and seeking opportunities, paying attention, and setting goals for learning more than males. These findings do not corroborate those of Khalil (1995) and those of previous studies that reported that female students use more strategies than males. This suggests that the use of strategies might be context specific and variable across different linguistic and cultural situations. Finally, the results regarding the interplay between reading proficiency and the use of strategies underscored the variability and complexity of strategy use in language learning and acquisition. For instance, while the low proficient students reported that they use more memory and affective strategies

than their high proficient counterparts, the latter reported that they used more cognitive strategies than the less proficient students. This suggest that it would be in order to instruct and encourage low proficient learners in using cognitive strategies in order to maximize their opportunities to acquire a language other than their own. Furthermore, the results revealed no statistically significant difference across the level of proficiency (high versus low) with regard to use of compensatory, meta-cognitive, and social strategies.

Conclusion

The present study examined the connection between the variables of language proficiency and gender on the one hand and the use of the six categories of strategies (memory, cognitive, compensatory, metacognitive, affective, social) measured by SILL on the other. The results generally suggest that the connection between the variables of gender and reading proficiency and use of learning and communication strategies on the other may be context specific and complex. As such there is a need for further research regarding the interplay of these variables in various cultural and linguistic contexts.

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APPENDIX

Strategy Inventory for Language Learning (SILL) Version 7.0 (ESL/EFL)

Name: ---------- **Date** ---------- / ---------- / ----------
Faculty: ---------- **Major:** ----------
Indicate your sex: Male: ---------- Female: ----------

This form of the Strategy Inventory for Language Learning (SILL) is for students of English as a second or foreign language. You will find statements about learning English. Please read each statement carefully and circle the number (1,2,3,4,5) that tells how true of you the statement is.

1. **Never or almost never true of me**
2. **Usually not true of me**
3. **somewhat true of me**
4. **usually true of me**
5. **Always or almost always true of me**

Statements	Level of Agreement				
1. I think of relationships between what I already know and new things I learn in English	1	2	3	4	5
2. I use new English words in a sentence so I can remember them	1	2	3	4	5
3. I connect the sound of a new English word and an image or picture of the word to help me remember the word	1	2	3	4	5
4. I remember a new English word by making a mental picture of a situation in which the word might be used	1	2	3	4	5
5. I use rhymes to remember new English words	1	2	3	4	5
6. I use flashcards to remember new English words	1	2	3	4	5
7. I physically act out new English words	1	2	3	4	5
8. I review English lessons often	1	2	3	4	5
9. I remember new English words or phrases by remembering their location on the page, on the board, or on a street	1	2	3	4	5
10. I say or write new English words several times	1	2	3	4	5
11. I try to talk like native English speakers	1	2	3	4	5
12. I practice the sounds of English	1	2	3	4	5
13. I use the English words I know in different ways	1	2	3	4	5
14. I start conversations in English	1	2	3	4	5
15. I watch English language TV shows spoken in English or go to movies spoken in English	1	2	3	4	5
16. I read for pleasure in English	1	2	3	4	5

17. I write notes, messages, letters or reports in English	1	2	3	4	5
18. I first skim an English passage (read over the passage quickly) then go back and read carefully.	1	2	3	4	5
19. I look for words in my own language that are similar to new words in English	1	2	3	4	5
20. I try to find patterns in English	1	2	3	4	5
21. I find the meaning of an English word by dividing it into parts that I understand	1	2	3	4	5
22. I try not to translate word-for-word	1	2	3	4	5
23. I make summaries of information that I hear or read in English	1	2	3	4	5
24. To understand unfamiliar words, I make guesses	1	2	3	4	5
25. When I can't think of a word during a conversation in English, I use gestures	1	2	3	4	5
26. I make up new words if I don't know the right ones in English	1	2	3	4	5
27. I read English without looking up every new word.	1	2	3	4	5
28. I try to guess what the other person will say next in English	1	2	3	4	5
29. If I can't think of an English word, I use a word or phrase that means the same thing	1	2	3	4	5
30. I try to find as many ways as I can to use my English	1	2	3	4	5
31. I notice my English mistakes and use that information to help me do better	1	2	3	4	5
32. I pay attention when someone is speaking	1	2	3	4	5
33. I try to find out how to be a better learner of English	1	2	3	4	5
34. I plan my schedule so I will have enough time to study English	1	2	3	4	5
35. I look for people I can talk to in English	1	2	3	4	5
36. I look for opportunities to read as much as possible in English	1	2	3	4	5
37. I have clear goals for improving my English skills	1	2	3	4	5
38. I think about my progress in learning English	1	2	3	4	5
39. I try to relax whenever I feel afraid of using English	1	2	3	4	5
40. I encourage myself to speak English even when I'm afraid of making mistakes	1	2	3	4	5
41. I give myself a reward or treat when I do well in English	1	2	3	4	5
42. I notice if I am tense or nervous when I am studying or using English	1	2	3	4	5
43. I write down my feelings in a language learning diary	1	2	3	4	5
44. I talk to someone else about how I feel when I am learning English	1	2	3	4	5
45. If I don't understand something in English, I ask the other person to slow down or say it again	1	2	3	4	5
46. I ask English speakers to correct me when I talk	1	2	3	4	5
47. I practice English with other students	1	2	3	4	5
48. I ask for help from English speakers	1	2	3	4	5
49. I ask questions in English	1	2	3	4	5
50. I try to learn about the culture of English speakers	1	2	3	4	5