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International Journal on New Trends in Education and Their Implications
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## From Editors

**Welcome to the third issue of the INTERNATIONAL JOURNAL ON NEW TRENDS IN EDUCATION AND THEIR IMPLICATIONS – IJONTE as Volume 1 Number 3 October Issue of this year. In addition this issue contains 9 articles are published from India, Pakistan, Tunisia, Turkey, United Kingdom and Zimbabwe as a 6 different countries with 16 authors.**

**In this issue the foreword is written by our esteemed Jace Hargis who is currently an Assistant Provost at the University of the Pacific and an Associate Professor in California. Now he is Director Institute of Distance and Continuing Education, University of Guyana. He mentioned in his foreword that an active movement towards virtual worlds has opened a learning environment which continues to build authentic bridges across countries, cultures and languages. For example, our university has created an island where our students interact with native Chinese speakers, which includes students writing, reading and speaking in Chinese. Examples of virtual worlds include There.com, Multiverse, OpenSim, Fortera Olive, Habbo and the new Blue Mars. Of course our thanks go to him.**

**The first article is sent from Istanbul University, Turkey on Education And Intelligent Tutor System In Turkey, which is written by Zerrin Ayvaz Reis and Şebnem Zeren. Their paper present that the educational system that is in the term of republic of turkey was analyzed and the periodic process of education systems all around the world was presented. Afterwards, the process and the method modules began to be used at education with the information technologies.**

**The second paper written by Gülten Genc, Inönü University and Ahmet KAYA from 7 Aralık University, Faculty of Education, Kilis, Turkey on An Investigation On The Motivation Level of EFL Students. Motivation in the realm of education is concerned as one of the most important factors to support learning process and provide high-quality learning since it enhances personal growth and adjustment. Motivation is also an important factor in foreign language education and achievement. It was also emphasized in the literature that motivation and students' language proficiency are positively internally related. So, the issue of motivation is thought to be analyzed carefully in understanding the determinants of language achievement in any EFL setting. For this purpose this study has been designed to examine the likely effect of the motivational factors on the foreign language achievement of the students learning English as a foreign language. The study was conducted at the School of Foreign Languages at a state university in 2009-2010 academic years. The data have been collected through the questionnaire (AMTB) developed by Gardner and analyzed through SPSS 11.5 for windows.**

**The research highlighted that students in the school study English with low motivational intensity and desire to learn English. It has also been seen that gender, compulsory or optional states of the students, importance of English, high school type and achievement in foreign language studies are important factors in determining students' motivational level while students' previous preparatory school education and home background characteristics are not. Finally, some practical recommendations were noted.**

**The third paper from Tunisia, Title of article is Exploring Differentials Across The Preschool Systems In The Maghreb Region, written by Sana Cherni and Mohamed Ridha Benmaad. In their study, shed that light on how the economic background and socio-historical context have had a solid bearing on the preschool system in the Maghreb region. Building on a number of comparative studies from mainstream early childhood education literature across discrete cultural contexts, the paper seeks to investigate the influence of these social-cultural dynamics on the conceptualization of the preschool system. However, such impact does not only figure across countries with distinct cultural and geographical lines but rather among counties sharing almost the same cultural heritage. In this respect, it is thought here that a homogeneous cultural**

environment such that of the Maghreb countries (i.e., Tunisia, Algeria, and Morocco) does not necessarily subscribe to the same blueprint because of the significant differences which figure in regards to the structural organization and pedagogical agendas of preschools within each of the Maghreb countries.

The fourth article arrived from India, on Motivational Analysis Among Science Teachers About Environmental Education: A Case Study Of District Bandipora (Jammu And Kashmir) India which is written Iftikar Rashid Wani & Mohammad Yousaf Ganai. This study aims that determing awareness level of prospective science teachers on various environmental aspects using a qualitative and quantitative analysis. The study was carried out in the form of a case study with about 400 teachers teaching up to the class VII in secondary schools of different educational zones in district Bandipore during the academic year 2008-2009.

The sampled teachers were divided into four groups such as, science teachers of govt. schools (STGS), science teachers of private schools (STPS), other subject teachers of govt. schools (OSTGS) and other subject teachers of private schools (OSTPS). A standard questionnaire was prepared incorporating diverse issues of environmental science and applied to all the sampled teachers. According to the data obtained from the questionnaire results, significant difference were observed in the levels of environmental knowledge and perception in different groups of teachers owing to variability in their educational background, depth of interest, extent of seriousness, professional commitment, scientific attitude and sense of societal responsibility etc.

The fifth article from again Turkey on Students' Perceptions Toward Vitamin Education Support Service which is written by. Ozgen Korkmaz and Mustafa Aygün from Ahi Evran University, Kirsehir, Turkey. As a new very young university. Vitamin is an education support service as a metaphor which is compatible with the MNE's curricula, is accessible through the internet, and was developed for teachers and students. Vitamin's purpose is described as helping students better understand lessons and realizing full learning. Vitamin provides students and teachers with e-education solutions blended with state of the art visual content and interaction and offering a personalized learning process. The present study aims to determine students' perceptions toward Vitamin's effectiveness and usefulness. It is a descriptive study designed on the basis of the survey model. The study group consists of 688 students studying in the $4^{th}$-$8^{th}$ grades in Husnu M. Ozyegin Primary School in the central province of Kirsehir. The results obtained through the analyses could be summarized as follows: Most of the students find Vitamin useful. Besides their positive views about Vitamin, the students also think that Vitamin may have adverse effects for them. A great majority of the students do not use Vitamin. The more frequent the students use Vitamin, the more positive their attitudes toward Vitamin. Furthermore, the levels of positive perceptions among the students who never use Vitamin are lower than those of others. The students' positive views about Vitamin decrease with increasing grade level, while their negative views increase.

The sixth article is on Effects of Multimedia Glosses On L2 Vocabulary Learning which written by Parisa RAZAGIFARD, Payamnour University of Meshkinshahr, Iran. The present study investigates the effects that different types of multimedia glosses have on second language vocabulary learning. Sixty elementary level learners of English were randomly assigned to three types of annotations: (i) with only textual annotations available, (ii) with only pictorial annotations available, and (iii)with both textual and pictorial annotations available. Subjects were asked to read four annotated texts with the intention of comprehension. Acquisition was measured by means of two types of tests: word recognition test and picture recognition test. Results showed that the groups that had access to both textual and pictorial annotations significantly outperformed the other two groups in both tests. The results also indicated that the pictorial group obtained significantly higher means score in comparison to textual group.

**The seventh paper belongs to Ernest Ampadu on An Investigation Into Students' Attitude Towards Adult Education Programmes: The Case of Ghana. The purpose of this paper was to examine students' attitude toward adult education programmes in Ghana as well as the challenges facing adult education students. The study employed a mixed method approach using a semi-structured questionnaire and interviews as means of data collection. The study revealed that, the participants were aware of the importance adult education programmes for both individual and national development and this was reflected in their attitudes towards such programmes. Despite these positive attitudes, the participants could not hide their grievances regarding high cost for the programme as well as the huge travel cost and time. The results strongly support the need for the government and adult education authorities to be more pro-active in providing adult education programmes, financial support and scholarship for students to motivate more people to enroll in such programmes for national development.**

**The eighth artice from Zimbawe. Caleb Kangai and Richard Bukaliya from Zimbabwe Open University. Their paper on The Potential And Challenges Of Introducing New Technology In Distance Teaching And Learning. Their paper indicate that one of the most significant recent technological developments at the Zimbabwe Open University has been the introduction of the CD-ROM digital text as the central medium of instruction. The ZOU has always used tutorials and the module as the main delivery mode. However, the advent of the global village, advancement in new technology and the socio-economic and political challenges Zimbabwe experienced in the past two years from 2008 to 2009 forced ZOU to adopt an alternative medium of instruction (CD-ROM digital text) in order to survive. Article reports the findings of a university-wide study the two authors conducted at the ZOU during the 2nd Semester (July-December 2009) in order to contribute meaningfully to the current debate on challenges ZOU and other ODL institutions are facing in introduction new technology in their delivery mode.**

**The last, but not least article from again Pakistan, written by young scholars Muhammad Abdul Malik and Muhammad Safdar on the Problems And Prospects: Women Development Through Non Formal Basic Education subject. The main purpose of the study was to evaluate the challenging role of Non-Formal Basic Education (NFBE) in eliminating poverty and gender disparity in the rural areas of Punjab. Problems and issues pertaining to the NFBE were also assessed in this study. 750 students, 250 teachers and 50 administrators were taken as samples systematically. An inventory sheet and three questionnaires were used as research tools for data collection. Main findings of the study revealed that NFBE schools are playing dynamic role in national development by uplifting socio economic status of masses in the rural areas. NBFE schools were also playing vital role in discriminating gender disparity by providing equal opportunities of education to male and the female as well. Teachers' remuneration was insufficient and there was lack of physical facilities (lack of buildings, electricity and furniture etc.) in these schools. Syllabus of NBFE was informative, easy, interesting and illustrated with diagrams. Motivational campaigns may be launched through media to mobilize community for maximum participation in the NBFE schools.**

**Dear IJONTE readers, in this issue too we have not yet established the Notes for Editor, and Reviews section. We are planning to organize and establish these sections very soon. We expect your studies to these sections in due course.**

**You can reach us online http://www.ijonte.org and please send your thoughts to ijonte2010@gmail.com**

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**To receive further information and to send your recommendations and remarks, or for your submission for consideration, please contact with the IJONTE Secretariat by email at ijonte2010@gmail.com**

**We trust you find this Issue exciting and enjoy reading the Articles.**
**Hope to meet again at 1st of October 2010**

**Editors**
**Prof. Dr. Zeki Kaya, Gazi University, Turkey**
**Prof. Dr. Uğur Demiray, Anadolu University, Turkey**

 

International Journal on New Trends in Education and Their Implications
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## Foreword

**AN ONLINE LEARNING ENVIRONMENT HAS AN ABILITY**

It is my great pleasure to share my thoughts in this Forward section for IJONTE Volume: 1 Number: 3 October 2010 ıssue, on the innovative distance learning scholarship provided in the new International Journal on New Trends in Education (IJONTE).

I have been fortunate to publish, review and share editorials for the Turkish Online Journal of Distance Education (TOJDE) for the past several years, which has provided both a venue for my scholarship, as well as a prime source for maintaining an updated sense of distance learning throughout the world. It is apparent that IJONTE has quickly become an insightful addition to the arena of relevant, meaningful, action research, which is highly sought in the literature. Timely, essential topics have been shared in the first several issues, which include E-Portfolios; Predictors for adopting E-Learning modules; Distance Education Evaluators; Interactive Video; Psychological dimensions of E-Learning; Quality Assurance; Librarians role in distance education; Reflective Practice; and Peer Review. It is exciting to see that teacher-scholars around the world are tackling and resolving many of the same challenges, which we have found common across the cultures.

Originally, the term Distance Education presumed location as a defining characteristic. This geographical distinction often reminds us of correspondence courses, and creating tapes, which were sent to students through postal systems. However, today terms such as On-Line learning, E-Learning, Blended Learning, and more have helped the academic community view distance education more broadly. An online learning environment has an ability to provide a highly variable, un-sequenced area where learners are frequently intrinsically motivated, and engage people of all ages and diverse backgrounds. In addition, these constructive environments attend to an ever expanding group of individualized learning styles, aptitudes, and perspectives.In the United States, two major groups, which facilitate the emerging use of instructional technology in higher education, are Educause (http://www.educause.edu) and the New Media Consortium (http://www.nmc.org). Both groups provide an on-going source for updated ideas, materials and recommendations for those of us who are creating high quality online programs.

In addition, many of their resources are open source, which is a primary mission of the IJONTE, and aligns with many of the major movements for accessibility of information throughout the world. One of the most famous cases of open source occurred when Massachusetts Institute of Technology (MIT) pioneered the movement in 2002, placing many of their courses online and open access (http://ocw.mit.edu/index.htm). MIT provide courses from many disciplines, from Engineering to Science and Humanities, with associated Real Simple Syndication (RSS) feeds.

Finally, an active movement towards virtual worlds has opened a learning environment which continues to build authentic bridges across countries, cultures and languages. For example, our university has created an island where our students interact with native Chinese speakers, which includes students writing, reading and speaking in Chinese. Examples of virtual worlds include There.com, Multiverse, OpenSim, Fortera Olive, Habbo and the new Blue Mars.

However, at this point in time, by far the biggest player is the originator, Second Life (SL). I believe that just as more dynamic, interactive, graphically intense learning environments will be developed and deployed, inspiring journals such as IJONTE will be a viable avenue for scholars to share the effectiveness of these worthwhile contexts.

## BIODATA AND CONTACT ADDRESSES OF AUTHORS

Dr. Jace HARGIS is currently an Assistant Provost at the University of the Pacific in California and an Associate Professor. He has authored a textbook, an anthology and has published over fifty academic articles as well as offered over one hundred national and international academic presentations. His undergraduate and graduate degrees are in the chemical sciences and he has earned a Ph.D. from the University of Florida in Science Education. His area of specialization and research agenda is in the area of informal learning settings including theoretical aspects of how people learn with the use of emerging technologies.

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# EDUCATION AND INTELLIGENT TUTOR SYSTEM IN TURKEY

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## ABSTRACT

In this study, the educational system that is in the term of Republic of Turkey was analyzed and the periodic process of education systems all around the world was presented. Afterwards, the process and the method modules began to be used at education with the information technologies.

The Intelligent Tutor System is the application of A.I. and it is used for education and training. The aim of this study is to differentiate the Intelligent Tutor Systems in Turkey and all around the world, where suggested developing information and lists with dates are provided.

**Keywords:** Intelligent tutor systems, education, e-learning.

## INTRODUCTION

As we all know education has the most dynamic and critic role during the changes of society. Therefore, education is “change of personal behavior process accomplished by experience or intention” (Erturk, 1977).

The changes occur at the structure of society, brought-out some of the philosophical currents. These currents affected the curriculum that constituted Philosophy of Education.

- Perrennialism is the oldest current of Philosophy of Education, based on realism and affected to idealism. According to this current, some of the knowledge and ideas are meaningful from the first day to the last; ever existed. So they must be the focus of education. Perrennialism has a very strict discipline of understanding that defends the teacher-center education (Sonmez, 1996).
- Essentialism is the most widely-used current of Philosophy of Education, which is mainly based on idealism. The traditional essential understanding considers that the personality development and quiddity of knowledge must be given to students. ”The aim of education dedicates basic training. The teacher must be the role model of field expert and good-citizen.

The powerful and smart student can improve own-self at school with this basic training” (Gutek, 1997). According to essentialism, the student is inactive and the teacher is in the center of education and can use force against learner.

- Progressivism is based on pragmatist current and it focuses on student and activity. The teacher is the guide and the supporter. The progressivist current accepts that the students are different than each

other by their interests and experiences. The teacher must plan the lessons as such that the students should suspect and turn to self-learning. According to progressivism, the school trips must be arranged for better understanding the nature and society. The tolerance and cooperating is the most important behavior at this current (Sahin, 2005).

- Reconstructionism is based on pragmatism. The goal of education is a re-arranged society and it is emphasized that the school's fundamental duties are to renovate. According to Reconstructionism, the schools should not be a place where issues analyzed or problem of society evaluated, on the contrary they should be a place where generating solutions are suggested. The teachers and the students should become the leaders who come into action of solutions (Varis, 1998).

## THE SYSTEM OF EDUCATION AT TURKEY

Republic of Turkey was established in 1923. At that time, the purpose of education was "to create new citizens and institutions that understands the issues of renovation and narrates from one generation to another" (Eskicumali, 2003). Thus the essentialism was used at education. However, the school was revising in the direction of pragmatism in the USA which Philosophy of Education was presented by John Dewey.

The first reform was "Tevhid-i Tedrisat" (the law of the union of education and teaching) at March 3rd, 1924 in Republic of Turkey. After this law taking place, all the religious education institutions and the elementary schools combined, and the government took full control. During that period, the idea of centralized structure of school management gave place to territorialization which meant that the planning and financing of the school depended on the area. Mustafa Kemal Ataturk; who established Republic of Turkey was personally part of the process of education and gave lessons in New Latin Alphabet by the title of head-teacher (Sag, 2003).

The five year elementary school became mandatory by the 1924 Constitution. Around that time, John Dewey was invited to Republic of Turkey to evaluate the new education system, and his report stated "the education must transfer the culture of society within frame of pragmatism" but the report did not get used because of the purpose of creating new society with new culture. Around 1926, education expenses were voided and boarding schools opened to public free of charge.

The Turkish middle teaching institutes comprised of the three year secondary and three year high school. Istanbul Technical Schools transformed into Istanbul Technical Universities. A few schools in Ankara were combined as Ankara University in 1933 (Arslan, 2005). From this time and on, the new approach to education began to be called Distance-Learning in the U.S.A. IOWA University was put into service where the first television broadcaster for education was used between 1932-1937 (Gulbahar, 2009).

The universities accepted candidates without any eliminations because of lack of high school graduations in 1960s (Erdem, 1993). Due to increasing number of candidates, an examination was essential, thus, the Center of Student Elimination and Placement (USYM) was established in 1974. The Computer Supporting Education accelerated at universities and the computers started actively being used in the classes in Europe (Kuzu, 2007).

In the developing history of Turkish education, a lot of attempts of reformist progresses brought out and some of them were used for temporarily.

### The Country Institutions

The Country's Institution was the most systematic educational Project of the history of Republic of Turkey. It was created to consider the educational needs of the country and based on a part of the report which was built by J. Dewey. This Special training system educated the teachers but turned to teacher's school of Education in 1952 (Geray, 1969).

### The Applications of Open Education

The application of open education started, firstly, at middle level of technical subjects in 1960 in Republic of Turkey. The base of open education began to be published at Boston Newspaper in 1728. British Open University was the first university where the application of open education was used in 1960 (Hakan, 1991).

### Class Succeeding and Credit System

The application of credit system based on 8th National Education Council in 1970 but the system started to be used in 1991 (Erdogan, 2001). At that time, The Pragmatism was developing in USA and it gave a new form to the school management; all depended on managers, teachers and parents of the school (Ari, 1999).

The Class Succeeding and Credit System was terminated in 1994, firstly, because it was not easily understood by students, not easily applicable, there were not enough staff members to proceed and at last it was diagnosed to cause domestic violence between students (Erdogan, 2001).

### The Eight Year Continues Compulsory Education

The Government decided to the eight (8) year Continuous Compulsory Education starting at primary school (MEB, 2001). However, at the time The Compulsory Education was already implemented at least 9 to 12 years in the U.S.A. and Europe.

## USING THE COMPUTERS IN EDUCATIONAL AREA IN TURKEY

### Using the Computers in Formal Education

By the reason of developing “the new informatics and communicating Technologies”, the computer hardware started to be provided to some of the secondary schools in 1985-1986 educational years by National Education Ministry (MEB). In the aim of training efficiently, some of the teachers took computer courses from MEB (Arslan, 2003). The usage of computer in pre-school education was discussed for their domain of applicability and importance in European country. Especially Seymour Papert, who was the creator of LOGO programming language, and Piaget, who made studies of cognitive theory understood children and proved that some of the studies can only succeed if the computer was used in pre-school education (Ari, 1999).

In late 1991 the computer laboratories were built in more than 400 schools (Ozel, 2004). In 1995 the amount of computer was approximately 5.8 million in the U.S.A. (Demirci, 2007).

### Distance Learning

The Distance Learning is the model of education, which carried out by using communication technologies, post office and students can study in their own time, at the place of their choice (home, work, learning center, etc.) with-out a face-to-face contact with a teacher. In other words, the distance learning is consisted of special organization, application required a different lesson plan and special tutoring whether using an electronic system or not.

The distance learning started to establish Tutoring Centre by post mailing in 1961 in Turkey. The first Open University was established with the idea of Anadolu University in 1982, but it was actually established in 1993 (Gulbahar, 2009). In USA and Europe, the distance learning was started in 1728. The letter, the radio and the television were used in distance learning as the way of education and the universities were established where used to this way in 1960s. The high school, where was trained with letter, was built at 1923 in USA.

### E-learning

E-learning, is an effective method, which uses the internet and multimedia systems and provides to the different information sources and interactive learning (Yavuz, 2003).

Table 1
The E-Learning programs on universities in Turkey

| UNIVERSITY | THE NAME OF PROGRAM |
|---|---|
| Sakarya University | Associate Degree Program 5<br>Computer Programming,, Knowledge Management, Business Management, Industrial Electronic, Mechatronics<br>Degree: 3 (Blended Education Method)<br>Computer Programming, Human Resources Management, Industrial Engineering<br>Post Graduate: 3<br>e-Information Technologies, e-Business Management, e-Engineering Management<br>Certificate: 2 Certificate programming (16 Lesson<br>Computer Programming, Knowledge Management |
| Anadolu University | E-MBA |
| Anadolu Univ. Open Learning Faculty | Associate Degree Programming<br>Knowledge Management |
| ITU | UZEM |
| METU-IDEA | Asynchronous Internet Education |
| METU-Online | METU Online |
| METU-DIL | DIL(Distance Interactive Learning) |
| Istanbul Bilgi University | E-MBA |

E-Learning consists of web and computer based education, virtual classes, digital cooperation and their process. According to this method, the student is the center of education and learns independently of time or place (Gezer, 2008). E-Learning programs are used most universities in the lots of countries and of course in Turkey. Table 1 illustrates them with which universities are used.

## Computer Based Learning

Computer-based learning, sometimes abbreviated to CBL, refers to the use of computers as a key component of the educational environment. While this can refer to the use of computers in a classroom, the term more broadly refers to a structured environment in which computers are used for teaching purposes.

The concept is generally seen as being distinct from the use of computers in ways where learning is at least a peripheral element of the experience (Balaban, 1998).

Computer-based learning was started with "Computer-Based Learning Project" between years of 1988 and 1989 in Turkey (Simsek, 1997). Nowadays, Anadolu high schools and private schools use this kind of applications.

### Intelligent Tutoring System

An intelligent tutoring system (ITS) is any computer system that provides direct customized instruction or feedback to students, i.e. without the intervention of human beings, whilst performing a task.

Thus, ITS reaches the goal of high quality and effective education (Dogan, 2008). An ITS may employ a range of different technologies. However, usually such systems are more narrowly conceived of as artificial intelligence systems, more specifically expert systems made to simulate aspects of a human tutor.

Intelligent Tutor Systems have been around since the late 1970s, but increased in popularity in the 1990s. Many of them were piloted in high schools and colleges. The producers and the environments of them are illustrated Table 2.

Table 2
Intelligent tutoring systems in the world

| Name of ITS | Owner of ITS | The Environment of ITS |
|---|---|---|
| WEST 1960 | Computer Development Corporation | WEST is a coaching program designed to teach the appropriate manipulation of arithmetic expressions in a computer gaming environment (Burton, 1979). |
| SCHOLAR 1970 | Jaime R. Carbonell | SCHOLAR attempted to engage the student in a mixed initiative dialogue on South American geography. The program and student communicated through a sequence of natural language questions and answers. The tutor could both ask and answer questions and keep track of the ongoing dialogue structure (Nwana, 1990). |
| BUGGY 1975 | J.S. Brown and R.R. Burton | The BUGGY program provides a mechanism for explaining why a student is making an arithmetic mistake, as opposed to simply identifying the mistake, It allows teachers to practice diagnosing the underlying causes of student's errors by presenting examples of systematic, incorrect behavior |
| The Geometry Proof Tutor (GPT) 1984 | Kenneth R. Koedinger, Albert T. Corbett, John R. Anderson and R. Pelletier | The Geometry Proof Tutor (GPT) developed to support students in completing Euclidean proofs (Anderson, 1985). |
| PROUST 1985 | Spohrer and Soloway | PROUST does on-line analysis and understanding of Pascal written by novice programmers. It takes as input a program and a non-algorithmic description of the program requirements, and finds the most likely mapping between the requirements and the code (Johnson, 1985). |
| LISP Tutor 1986 | Carnegie Mellon University Anderson and Skwarecki | The Lisp Tutor is a model tracing tutor that assists students is completing short Lisp programming problems. This tutor was employed in a study of feedback timing and control with four feedback conditions. One was a standard immediate feedback condition in which the tutor provides |

| | | |
|---|---|---|
| | | feedback on each symbol. A second, error flagging condition, flagged errors immediately, but did not require correction. Students could correct errors when they chose. In a third condition, feedback-on-demand, the tutor provided no assistance until requested by the student. In the fourth condition, students completed programming exercises in the same problem solving environment, but without any tutorial assistance. (Corbett and Anderson, 1991). |
| ANGLE 1986 | Kenneth Koedinger | ANGLE provides such a special environment that students build a proof graph rather than a two column proof. Students construct each statement in the proof by selecting an icon from the set of icons on the left side of the screen that reify the types of visual patterns the experts detect (Anderson, Boyle and Reiser, 1985). |
| Pump Algebra Tutor 1992 | Kenneth R. Koedinger, Albert T. Corbett and John R. Anderson | PAT is an algebraic problem solving environment. Each task presents a problem solving situation that describes the relationships among two or three quantities and presents from three to six specific questions to answer. The students are asked to represent the quantities as spreadsheet columns, answer the questions in the spreadsheet rows, induce an algebraic description of the relationships and graph these relationships (Koedinger, 1997). |
| Cognitive Tutor Algebra I 1993 | Carnegie Learning Inc. | Cognitive Tutor Algebra I program is designed to provide students with an opportunity to learn Algebra I in both classroom and computer lab settings. Students spend about forty percent of instructional time in their algebra classes interacting with the Cognitive Tutor software. The software is designed to "understand" the methods a student may use to solve a problem and to offer individualized assistance to the student. The computer program adapts to the student by pacing the curriculum and by selecting problems according to the student's needs (Shneyderman, 2001). |
| Advanced Geometry Tutor(AGT) 2005 | Noboru Matsuda and Kurt VanLehn | AGT based on the student's competence level for a step, the tutor selects one of three types of proactive scaffolding: Show tells: the tutor tells students what to do and actually performs the step. Tell: the tutor tells students what to do, but asks the student to perform the step. Prompt: the tutor only prompts the student to perform the step (Matsuda, 2005). |

Unfortunately there are not lots of ITS systems in Turkey, but the researches are continued. Intelligent tutoring systems consist of four different subsystems or modules: the interface module, the expert module, the student module, and the tutor module. Table 3 illustrates models of an ITS that were produced in Turkey with their owners.

Table 3
The produced model of intelligent tutoring system in Turkey

| Name of Model | Owner of Module | Recommended Module |
|---|---|---|
| Evaluation Machine 2003 | Çukurova University<br>Ugur YAVUZ - Selcuk KARAMAN | Fuzzy-Evaluation Module (Yavuz, 2003). |
| Excel TUTOR 2004 | Ahi Evran University<br>Sinan KAYA - Özgen KORKMAZ | Content Module<br>Rule Based (Kaya, 2007). |

| | | |
|---|---|---|
| An Intelligent Tutor System Based of Visual Prolog 2004 | Kocaeli University<br>Kadir ERKAN - Funda DAG | User Interface Module<br>User Module<br>Domain Expert Module (Dag, 2004). |
| Defining The Situation of the Student with Suggested Model (2008) | Fırat University<br>Mehmet GÜROL-Ferhat BAGCACI | Evaluation Module (Gurol, 2008). |
| The new Component for ITS 2008 | Gazi University<br>Nurettin DOGAN- Betul KUBAT | Organizer Module (Dogan, 2008). |

## INTELLIGENT TUTOR SYSTEM AT TURKEY

### Excel Tutor

The Excel tutor software was written by Microsoft Visual Basic 6.0. It is special intelligent tutoring software to teach about the cell concept, operators, formulas and functions at the well-known Excel program.

Field knowledge and rule based are the two components of the Excel Tutor expert knowledge module.

Field knowledge was designed such as a textbook to teach, it includes; chapters, chapter subjects, practices and tests. Base rule is designed as a list of rules to provide student error detection, giving tips and explanations if preferred and personalized feedbacks.

Excel Tutor Program can control the answers of user (student), if the answer of the question is wrong than the system sends some hints or explanations.

Figure 1 illustrates the explanation of a mistake about functions are made by the user. When the answer was true, Excel Tutor Program asks another question, which is depending on its containing.

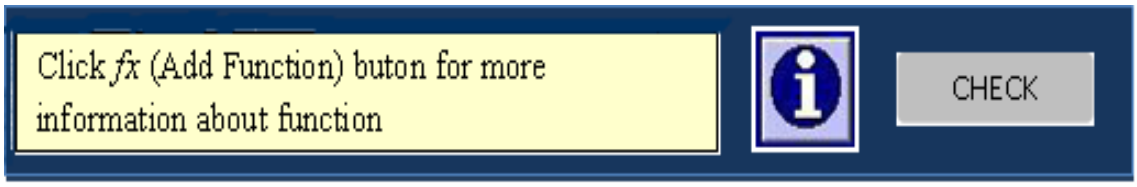


Figure 1
The explanation of a mistake about functions are made by user

Excel Tutor System allows making suggestions according to reviewing performances of a user.

Figure 2 illustrates the self-assessment of a user, which is sent from the system. However, the knowledge extraction algorithm which belongs to the expert system, is used to create the program algorithm which for the structure.

The student model which is produced to base stratification model, is comprised of comparing and equalizing the user's knowledge to content model.

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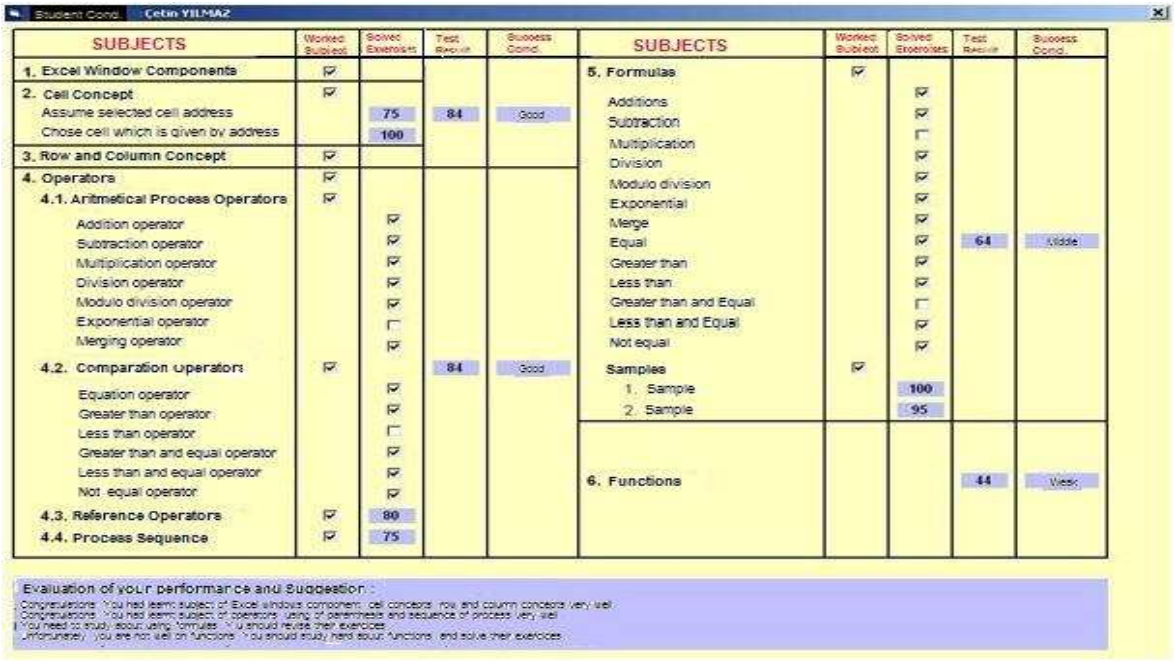


Figure 2
The self-assessment of a user which is sent from system

The student (user) and the teacher access to the system with user name and password, thus every student could display to own personal circumstance and choose the issues or the contents which her/she wants. Every activity is recorded to student model, so the teacher could reach the case of user, despite designing a user interface module which is constituted a student interface and teacher interface model.

Excel Tutor System uses to interactive problem solving, gives intelligent helping support step by step and feeds back every mistake with a personal explanation. The student (user) realizes that the subject which is well-known or not and the questions which are answered or not by reason of recording performances and user's case. The system provides to teacher with an opportunity that ascertaining and evaluating the performance.

Excel Tutor Program was carried out the students of a department of social sciences teaching at Gazi University by Sinan Kaya and Ozgen Korkmaz at Ahi Evran University at 2004-2005 educational years. Consequently, according to analysis of numeric data which was obtained the tutoring by the Excel tutor Program more successful than the traditional education (Kaya, 2007).

### An Intelligent Tutor System based of Visual Prolog

Component of the intelligent tutoring system which is web-based, general purposed (ITS) has been carried out by using Visual Prolog. A frame work of the system has been constructed to apply various lessons by Kadir Erkan and Funda Dag at Kocaeli University in 2004. An ITS actually consists of four (4) fundamental modules which are; domain expert module, user model, instruction model and user interface model.

However, the ITS based of Visual Prolog has the only domain expert model, user module and user interface model, that they build up the architecture of ITS which are illustrated in Figure 3.

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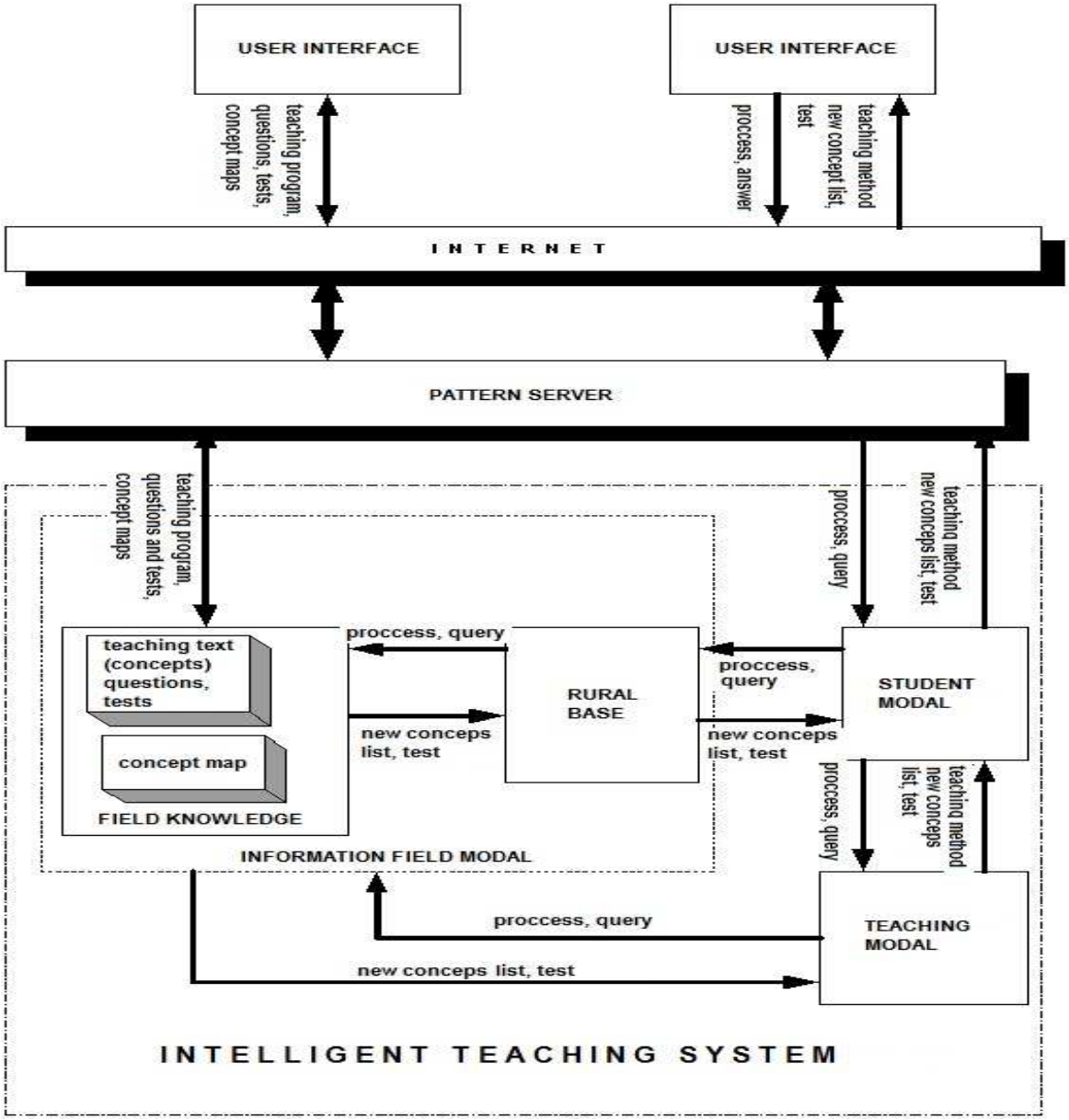


Figure 3
Architecture of the Visual Prolog based ITS

The user interface module consists of an author model and a student model. The author module consists of a lesson of subject, questions, tests and etc. information, which are illustrated in Figure 4. The student module consists of selecting preferred lesson and presents subjects suitable for student's level.

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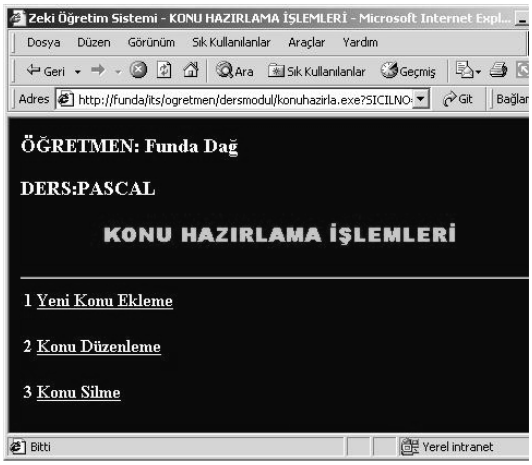


Figure 4
The author interface from Visual Prolog based ITS

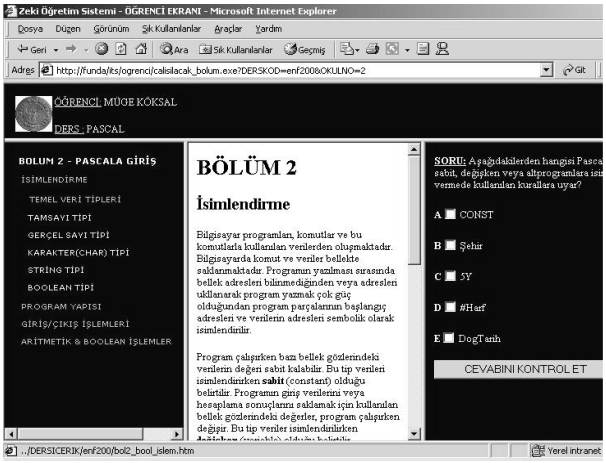


Figure 5
Content module as an example from Visual Prolog based ITS

User module was created as if the knowledge of student is a very small part of the content module. The purpose here is; to balance the knowledge of student and the content module. To create the user module for system, the student knowledge must be verified as measurable. Domain expert module consists of a content module and rule-based module. The content module is designed as small, explanatory information pieces such as a textbook. It includes sections of subjects, concepts and tests, which are illustrated in figure 5. The rule-based is designed as a list of rules which instructs the student from beginning to the very end within the concept map. Using the author user face, a teacher may create a new class and its concept. Using the student interface, a student may choose the classes he/she prefers, and may follow the suitable concept for own level.

The main purpose of this study in Turkey is to construct a frame work of the system to apply various lessons. In this ITS out of 4 modules only 3 of them have been completely constructed and they operate basically just yet. 4th component of the module does not operate yet. The studies are continued to do so (Dag, 2004).

## D.U.Y.G.U. As An Intelligent Tutor System

D.U.Y.G.U is a special project which is designed and managed by Devrim, Camoglu. (Graduated from Department of Industrial Design at Mimar Sinan University, Istanbul Turkey) consists more than one research subject in the area of Natural Language Processing.

Combining different parts of intelligence, such as mental alertness, chariness, consciousness and perception-pattern analysis center in a main module provides the project, namely D.U.Y.G.U. (Dil Uzam Yapay Gerçek Uslamlayici-Language Based Artificial Reality and Reasoning), an artificial form.(The “Artificial Reality” emphasizes not only communication but also all of the cognitive systems and reacting physically) In spite of the fact that the project was started as a research of Natural Language Processing at the beginning, it is designed as an interpreter of Turkish Artificial Intelligence Markup Language (T.Y.I.D) so as to improve the goal of syntactic pattern analysis.

D.U.Y.G.U. fulfills some of the important cognitive functions, such as plural concept connecting, communicating, judging and creating behavior, which require to Artificial Intelligence. In addition to the systems of Artificial Intelligence Dialog which was produced before and globally announced with Loebner Prize, D.U.Y.G.U. has additional specialties. It can connect audio-visual concepts, code linguistic and gain meaning. It

can also show the emotional processes such as sadness, happiness and worriment by sending orders to muscle motor system.

It has been decided that the project D.U.Y.G.U must be associated with the Humanoid Project in order to get rid of the desktops, to be an autonomous artificial intelligence and to provide the expected mental functions. Therefore, it will be able to learn, decide, react physically and move autonomously.

In order to understand the stage of the project D.U.Y.G.U and its application, the following questions were asked to Devrim Camoglu and answered by him.

1. What is the Project D.U.Y.G.U.? Could you give us some information about it?
   It is clear from its name, D.U.Y.G.U. that the initial idea was to model emotions and thoughts in a mathematical and algorithmical way. I partially fulfilled my aim. Frankly, it needs some more work to be completed. Additionally, I can say that if I can accomplish my aim, everybody will be astonished.
2. Was this project developed by support of a team or your own effort?
   Up to now, The Project has been completely developed by my personal effort and there has been no team behind the project except me. There may be a project group if there is an appropriate offer. Also, it yields a better performance of the project. Additionally, accompany with fresh ideas will make me happy.
3. What kind of contribution is expected for the project D.U.Y.G.U. by the robotic project, which you stated that you are working on?
   In my opinion, a robotic structure will provide an autonomous system, in other words, it will provide physical movement and make its own decision. It looks like a little bit terrifying even though there are so many ethical and legal issues that we must discuss. My opinion is that humanity will not escape from this progression.
4. Did you have any opportunity to perform the D.U.Y.G.U. Project? If there was, could you give us some information about the consequences?

As I said before, D.U.Y.G.U. has not been used in a commercial area, yet. Of course, it could be a personal informative with the communication module. But I don't want to waste this Project by using as a net-bots, because D.U.Y.G.U is more than it. That kind of projects have been already made by software developers, but all of those are the programmed answers, which related to specific sentence patterns. Those answers are not created by an artificial intelligence or recreate of speaking with a syntactic analysis.

The Linguistic, which is consists communication and thoughts at the same time, is just a part of the Project. The goal is to understand of subconscious, conscious, judging making decision, emotion etc. by analyzing modeling and artificially reconstituting them.

Therefore, some parts of project are the subjects of cognitive science and some parts of the project are the subject of cybernetic. Thus, cognitive and artificial system which can be called as artificial mind works on a TYID and its descriptor main software by a symbolic method. Besides, a social robot project has been performed as an application of artificial intelligence into the real world.

## CONCLUSION

In this study, the educational system that is in the term of Republic of Turkey was analyzed and the periodic process of education systems all around the world was presented. Afterwards, the process and the method modules began to be used at education with the information technologies.

The Artificial intelligence (A.I.) was present in the earlier 1920 but; the first scientific applications were made in 1950's.The idea of A.I. may accept as a result of developing of computers. Natural language processing,

robotics, neural networks, expert systems, fuzzy logic etc. are the application area of A.I. from The DENDRAL to the BLUEBRAIN project, which is the one of the first inventions at the expert system, produced neural networks, the A.I. took a great developing.

The first Intelligent Tutoring System (ITS) which is SCHOLAR was carried out in 1970. After that time the application area of A.I. was used for education such as expert system, fuzzy logic and neural networks. The aim of this study is the Intelligent Tutor System, which is the application of A.I, it is used for education and training. To differentiate the Intelligent Tutor Systems in Turkey and all around the world; that suggested developing information and lists with dates are provided.

Although ITS has four components, the applications, were presented in Turkey, show that if the purpose is to evaluate a student in the learning process from beginning to the end, then, “an evaluator module” or “fuzzy evaluator module” should be inserted to ITS. If the purpose is evaluating to change the connection between instruction module and student by considering the level of student, than, “the organizer module” should be inserted to ITS.

ITS is a new researching area in Turkey but the applications are considerably insufficient, when the applications are examined; the following reasons are presented;

- The exiguity of the scientists and researchers who study on ITS
- The non-solicitation of the students at higher education
- Not to organize researching teams
- If the researching teams were organized, the exiguity of sources cause not to continue the application or suggest a module and the exiguity of the ITS laboratory in Universities.

By these results, the effects of application is not obtaining as aspect, and not continuing. Thus the exiguity of success impulsion will prevent to find out the new enterprise. The reaching of applications of ITS in the world, the obstacles, is exposed, should abrogate in Turkey. By this purpose;

- The sources that are needed should be arranged such as financial support, staff, and workplace.
- Supporting the researcher of ITS.
- To provide the students interests at higher education, ITS lessons, laboratories and applications should increase.
- ITS Lessons should implicate in the other department’s educational program, as elective courses.

Consequently, the culture of ITS is introduced and comprehended, so, the new researchers of ITS will come forward.

**Acknowledgement**
We thank to Devrim Camoglu, because of illuminating us by giving details about D.U.Y.G.U. Project and because of the contribution by completing about Intelligent Tutoring System at Turkey.

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# AN INVESTIGATION ON THE MOTIVATION LEVEL OF EFL STUDENTS

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## ABSTRACT

Motivation in the realm of education is concerned as one of the most important factors to support learning process and provide high-quality learning since it enhances personal growth and adjustment. Motivation is also an important factor in foreign language education and achievement. It was also emphasized in the literature that motivation and students' language proficiency are positively internally related. So, the issue of motivation is thought to be analyzed carefully in understanding the determinants of language achievement in any EFL setting. For this purpose this study has been designed to examine the likely effect of the motivational factors on the foreign language achievement of the students learning English as a foreign language. The study was conducted at the School of Foreign Languages at a state university in 2009-2010 academic year. The data have been collected through the questionnaire (AMTB) developed by Gardner and analyzed through SPSS 11.5 for windows.

The research highlighted that students in the school study English with low motivational intensity and desire to learn English. It has also been seen that gender, compulsory or optional states of the students, importance of English, high school type and achievement in foreign language studies are important factors in determining students' motivational level while students' previous preparatory school education and home background characteristics are not. Finally, some practical recommendations were noted.

**Keywords:** Teaching English as a foreign language, motivation, autonomy in EFL.

## INTRODUCTION

Considering the growth of international relations of all the societies with each other today and the extended interest towards today's huge technology and science throughout the world, being an autonomous or motivated language learner has found a greater importance compared to previous years. Despite great efforts put into language studies, it is still a big problem that the English proficiency level of the majority of the students is not satisfactory enough in the schools in Turkey. There are certainly different reasons for this problem but one of the reasons which are the primary concern of this study is motivation. Motivation research has received much attention in the past decade and it has been widely studied and defined by the researchers as it is accepted one of the key factors influencing success in foreign language learning.

A great deal of research performed on the motivation and foreign language education was heavily affected by the Canadian researcher R. C. Gardner. Gardner described motivation as a "complex of factors" including the desire to achieve a goal, effort expended in that direction and reinforcement or satisfaction associated with the act of learning. According to Gardner, a highly motivated individual will want to learn the language, enjoy learning the language, and strive to learn the language. (Gardner 1985). Gardner even identifies motivation as the single most influential factor in learning a new language. Another comprehensive definition was made by

Dönyei and Otto (1998) prominent researchers of language studies. According to them, "in a general sense, motivation can be defined as the dynamically changing cumulative arousal in a person that initiates, directs, coordinates, amplifies, terminates, and evaluates the cognitive and motor processes whereby initial wishes and desires are selected, prioritized, operationalized and (successfully or unsuccessfully) acted out". As it can be understood from the definition, motivation is a temporal and dynamic state which involves desire and willingness to do something. A similar definition was stated that "to be motivated means to be moved to do something" (Deci and Ryan, 2000).

In general, explanations regarding the source(s) of motivation can be categorized as either extrinsic (outside the person) or intrinsic (internal to the person). Intrinsically motivated activities are ones for which there is no apparent reward except the activity itself. People seem to engage in the activities for their own sake and not because they lead to an extrinsic reward. Intrinsically motivated behaviors are aimed at bringing about certain internally rewarding consequences, namely, feelings of competence and self-determination. Extrinsically motivated behaviors, on the other hand, are carried out in anticipation of a reward from outside and beyond the self. Behaviors initiated solely to avoid punishment are also extrinsically motivated, even though numerous intrinsic benefits can ultimately accrue to those who, instead, view punishment avoidance as a challenge that can build their sense of competence and self-determination (Deci, 1975). Maslow (1970) claimed that intrinsic motivation is clearly superior to extrinsic. According to his hierarchy of needs one is ultimately motivated to achieve "self-actualization" once his basic physical, safety, and community needs are met. Regardless of the presence or absence of extrinsic rewards, one will strive for self-esteem and fulfillment. Bruner (1966), praising the "autonomy of self-reward", claimed that one of the most effective ways to help both children and adults think and learn is to free them from the control of rewards and punishments. The intrinsic-extrinsic continuum in motivation is applicable to foreign language classrooms around the world. Regardless of the cultural beliefs and attitudes of learners and teachers, intrinsic and extrinsic factors can be easily identified. Dörnyei and Csizer (1998), for example, in a survey of Hungarian teachers of English, proposed taxonomy of factors by which teachers could motivate their learners. They cited factors such as developing a relationship with learners, building learners' self-confidence and autonomy, personalizing the learning process, and increasing learners' goal-orientation. These all fall into the intrinsic side of motivation. Our ultimate quest in this language teaching business is, of course, to see to it that our pedagogical tools can harness the power of intrinsically motivated learners who are striving for excellence, autonomy, and self-actualization.

Gardner (1959) highlighted two different types of motivation specific to language study as instrumental and integrative motivation. Instrumental motivation is the desire to learn a language because it would fulfill certain utilitarian goals, such as getting a job and passing an examination. Integrative motivation, on the other hand, is the desire to learn a language in order to communicate with people from another culture that speak the target language.

In the related literature, motivation in foreign language education has been explained in terms of five theories: Gardner's theory of motivation, expectancy value theory, attribution theory, self-determination theory and Dörnyei and Otto's theory of motivation. According to Gardner's theory of motivation, The Gardnerian theory of L2 learning, motivation is based on the definition of motivation as "the extent to which the individual works or strives to learn the language because of a desire to do so and the satisfaction experienced in this activity". As it can be concluded from the definition, motivation is seen as goal-directed and learner's immediate goal is to learn the language. Gardner proposes that understanding the learner's ultimate goal helps understanding why learners are motivated (Gardner, 1985). It should be kept in mind that Gardner approached the research as social psychologist. He offers little explanation of how the learning situation can be organized to promote learner's motivation. He was more concerned with the effect of social variables on learner's motivation.

Expectancy value theories assume that motivation to perform various tasks is the product of two key factors: the individual's expectancy of success in a given task and the value the individual attaches to success in that

task (Dörnyei & Otto, 1998). That is, if an individual doesn't believe he or she can be successful at a task, or the individual does not see a connection between his or her activity and success, or the individual does not value the results of success, then the probability is lowered that the individual will engage in the required learning activity. From the perspective of this theory, these two variables must be high in order for motivation and the resulting behavior to be high.

In attribution theory, learners' perceptions of the causes of their success or failure influence their future performance. The perceived causes can be either external or internal to the learner. External causes are those outside the learner's control, such as luck, ability and task difficulty. However, effort is an internal cause and is within the learner's control (Dickinson, 1995).

The self-determination theory was introduced by Deci and Ryan as an elaboration of the intrinsic/extrinsic construct. Self-determination (i.e., autonomy) is seen as a prerequisite for any behavior to be intrinsically rewarding. It addresses the energization issue as well as the direction issue, and it does so by postulating about basic psychological needs that are inherent in human life. The theory focuses primarily on three such innate needs: the needs for competence, relatedness, and autonomy (or self-determination). Competence involves understanding how to attain various external and internal outcomes and being efficacious in performing the requisite actions; relatedness involves developing secure and satisfying connections with others in one's social milieu; and autonomy refers to being self-initiating and self-regulating of one's own actions. Intrinsically motivated behaviors are engaged in for their own sake- for the pleasure and satisfaction derived from their performance. When intrinsically motivated, people engage in activities that interest them, and they do so freely, with a full sense of volition and without the necessity of material rewards or constraints (Deci & Ryan, 1985). However, extrinsically motivated behaviors are instrumental in nature. They are performed not out of interest but because they are believed to be instrumental to some separable consequence (Deci, Vallerand, Pelletier & Ryan, 1991).

Dörnyei is one of the most active researchers on L2 motivation in recent years. He conceptualizes a tripartite L2 motivation framework that consists of three levels: (1) the language level, as integrative and instrumental motivation subsystems; (2) the learner level, as need for achievement and Self-Confidence (Language Use Anxiety, Perceived L2 Competence, Causal Attributions, Self-Efficacy) and (3) the learning situation level. Dörnyei also claimed that L2 motivation is an eclectic, multifaceted construct and he proposed three sets of motivational components belonging learning situation level: (1) course-specific motivational components; such as interest, relevance and satisfaction; (2) teacher-specific motivational components; such as affiliative drive and authority type; (3) group-specific motivational components such as goal-orientedness, norm and reward system, group cohesion and classroom goal structure (Dörnyei, 1994).

While designing a language course, teachers must take into consideration that each learners' interests, expectations and needs are different. Language teachers may need to understand the source of a student's motivation in order to meet particular and special needs of the students and to enhance language learning performance of the students. The School of Foreign Languages studied in this research has struggled for years with the problem of demotivated students, as both the students' and the teachers' informal reports indicate. Furthermore, voluntary students who intentionally choose to receive one year English preparatory course become demotivated after a few months of study, as their interest and willingness to learn fade away. This fading is clearly observable in their behaviors in the classroom and their attention to learning English, and Gardner also points out that though students are initially very enthusiastic about learning English, their enthusiasm wanes before the end of the first year. This situation creates problems in the classrooms in terms of both instruction and classroom management. When asked, informally, about the fading motivation, the teachers confirmed that some students are demotivated, and the existing student motivation fades as time passes.

Therefore, this study tried to turn the above theoretical considerations into an investigation of the relationships between, motivation, and some related factors concerning the students studying English as a foreign language. Thus, the present paper was guided by following research questions:

1. What are the levels of students' "Motivational Intensity" and "Desire to Learn the Language" as a foreign language?
2. Do the levels of "Motivational Intensity" and "Desire to Learn the Language" differ significantly according to the demographic characteristics, educational backgrounds and home background characteristics of the students studying English?

## METHOD

This is a descriptive, quantitative study in which a survey technique was implemented. The participants in the study include 141 students, of whom 59 (35, 7%) are females and 82 (64, 3%) are males. They are all freshmen aged from 18-24. In the university where the research was performed English preparatory education is compulsory for the students of Medical Faculty and ELT Department of Educational Faculty whereas it is optional for the students of some other faculties (Faculty of Administration, Faculty of Science and Letters, Faculty of Pharmacy and Faculty of Engineering. In the school, all the students were spread over 8 different classes, 3 of these classes consisted of volunteer students whereas 5 of them were compulsory and one of those five compulsory classes was composed of prospective English teachers. In none of these faculties the medium of instruction is English. But preparatory school offers an intensive English learning program during a preparatory year.

The questionnaire was administered to all the students of the school. The research indicates that 90 (63,8%) of the participants are compulsory and 51 (36,1%) of them are optional preparatory school students. Thirty five (24,8%) students reported that they attended English preparatory school of their high school and are receiving the second preparatory school education this year but 105 (74,4%) of them are receiving an English preparatory school education for the first time. The subjects' responses reveal that 89 (63,1%) of the students think that English is important for them while 52 (36,8%) of the students think that it is not important for them. With regard to high school type that they graduated from, 53 (37,5%) of the students graduated from Anatolian High Schools, 57 (40,4) of the students graduated from General High Schools and Vocational High Schools, 9 (6,3%) of the students are graduate of Private High Schools and finally 22 (15,6%) of the students are graduate of Science High Schools.

The subjects were administered a questionnaire (AMTB–Attitude and Motivation Test Battery) developed by Gardner (1985). In the questionnaire, only the foreign language "French" was replaced by "English" and it was presented in the subjects' mother tongue. The questionnaire contained two parts. Part one covered demographic variables such as gender, grades and questions related to the general background information and parental information of the participants. Part two covered 20 multiple-choice items with three options, investigating the motivational aspects of the subjects. The Motivation part of AMTB used in this study was comprised of two subscales: Motivational Intensity {MI) and Desire to Learn the Language (DLL). The response format was a three-point degree of rating scale with total possible scores ranging from 20 to 60 where low scores are associated with low motivation toward learning a foreign language and higher scores are associated with higher motivation toward learning a second language. The data collected by means of questionnaires were analyzed using descriptive statistics through SPSS 11.5 software in the computer. Calculated Cronbach's Alpha for the Motivational Intensity subscale was 0.8036 and for the Desire to Learn the Language subscale was 0.7751. The Cronbach-alpha coefficient value for the overall reliability analysis of the Motivational Construct was found as 0.8656 which shows a satisfying level of reliability beyond the minimum desirable level of reliability as stated by Pallant (2005): "Ideally, the Cronbach alpha coefficient of a scale should be above .7"

## RESULTS AND DISCUSSION

The findings of the study is presented in two sections based on the research questions: The level of motivation and the correlations between motivational construct and independent variables such as gender, compulsory and optional states, English grades, high school type, parents' educational background and the degree of importance of learning English.

The mean of the students' Motivational Intensity was found to be 16.60±3.66 (range: 10-30) whereas the mean of the students' Desire to Learn the Language was found to be 15.62 ± 3.45 (range 10-28). The highest score that could be obtained from both subscales was 30 while the lowest one was 10. Thus, when those scores are taken into account, for Motivational Intensity (MI) and Desire to Learn the Language (DLL) subscales, low level of motivation can be defined as a score between 10,0-16,6; moderate level between 16,7-23,3; and high level between 23,4-30,0. When the scores of the students are handled on the basis of this classification, it is quite clear that students in English Preparatory School have a low level of motivational intensity and desire to learn the language. As the first finding of the research it can be seen as the evidence of fading motivation of the students which was observed and reported by the instructors informally. It seems that lack of motivation is perhaps the biggest obstacle faced by the instructors in the school and this result causes the researchers to think about the role of the teachers and instructional material in motivating the students. Although they are beyond the scope of this research, the role of teachers and instructional material should not be ignored and they should also be considered as one of the probable factors of low motivation of the students at school. As Jesuiono (1996) pointed out that one thing with which everybody would agree is that teachers are powerful motivational socializers. Being the officially designated leaders within the classroom, they embody group conscience and serve as a model. So, it should be noted that when the students are motivated, teachers can perform their jobs best. Furthermore, a teacher can certainly do a lot to improve the students' motivation.

In order to look into male and female students' difference in motivational intensity and desire to learn English subscales, an independent-measures t-test was applied to data and the results indicated that there was a statistically significant difference between male and female with respect to their motivational intensity at 0,023 level. As it is indicated in Table 1, girls' motivational intensity is higher than that of boys. Unlike motivational intensity, there isn't any significant relation between the subscale "desire to learn the language" and gender at 0,055. It is clear that males differed from females in their level of motivational intensity as a Foreign Language, in favor of males. Some drives increase their motivational intensity since mastering a foreign language which is a communication tool all over the world provides them to gain prestige in the community by getting a better paying job, become successful in business and make friends. But it seems that male students care it more. However, this finding is contrasting with the results of many researches in the literature. According to the results of Rahman's (2005), Dörnyei & Clement's (2001), Özkut's (1991), Kızıltepe's (2003) and Gökçe's (2008) researches, motivational levels of girls are higher than those of boys. This discrepancy can be explained in a cultural context in Turkey. A broader look at the cultural context of the region where the research was performed can help to clarify certain facts concerning the different roles males and females have been given in the society and as a consequence, the different opportunities each gender has for higher education and a future career. In general it is expected that men acquire status through their knowledge and through the jobs they get. In other words, Turkish society expects males to acquire status through their knowledge, their influence and their standing in the community. However, very little expectations are placed on women in this respect and so this result is not surprising.

As for optional and compulsory status of the students is concerned, it has been revealed that a statistically significant difference was determined between voluntary and compulsory students in terms of both "motivational intensity" and "desire to learn English" subscales (Table 1). In other words, the students of ELT preparatory class and faculty of medicine, namely compulsory students, have higher motivational intensity and

desire to learn English in comparison to voluntary students. It is worth noting here that, contrary to the findings of the study, optional English preparatory school students were expected to have higher motivation level in both subscales since they intentionally chose to receive one year English preparatory education. But on the other hand, this difference may stem from the fact that one year English education is required for only compulsory students and they have to get minimum passing grade of the school at the end of the year in order to be able to continue their education in the faculties and this fact may cause them to have higher motivation level. So, it can be claimed that compulsory students are more motivated since they have more pragmatic reasons. Similarly, the results of a research performed by Sözer (1984) indicated that for 82% of the students the main purpose of learning a foreign language was to be successful in their own profession and fulfill the requirements of the school.

When the relation between students' previous preparatory school education and motivational intensity and desire to learn English is considered, it was found that there is not any significant difference. That is, the results of t-tests demonstrate that significance levels are 0,994 for "motivational intensity" and 0,747 for "desire to learn English" subscales (Table 1).

Regarding the importance of English a statistically significant difference was found between the groups of learners with respect to both subscales (Table 1). Results for statistical tests in order to determine the relationship between the importance of English for the participants and "motivational intensity" and "desire to learn the language" suggest that the students perceiving English as important are more motivated than the participants perceiving English "not important". It is thought that those 52 (36,8%) students are most probably compulsory preparatory school students and don't acknowledge the significance of learning English. The result clearly points out that the students who aren't aware of the importance of learning English in today's world shouldn't be anticipated to be motivated.

With regard to the type of high school that they graduated from, as can be seen in the table, statistically significant differences were found between the groups in terms of both "motivational intensity" at 0,037 level and "desire to learn the language" at 0,005 level. Descriptive statistics were applied to data in order to compare group means and LSD test was used to understand which group creates this difference. It was recorded that it is Science High School that causes the difference. To this finding, the graduates of Science High School have higher "motivational intensity" and "desire to learn the language" in comparison to Public and Vocational High Schools, Anatolian High School and Private High School (Table 1). Contrary to this finding, Ertan (2008) found that type of high school is not an important factor in determining the motivation level of the students. As researchers we were expecting that Anatolian high school students would get the highest motivational level since in those schools the medium of instruction once heavily used to depend on a foreign language and extensive English courses are still offered in those schools. But graduates of Science high school seem to get the highest motivational level. This result can be best explained from aspect of educational system. The students to Science High Schools in our country are selected through a national aptitude test and those who are entitled to attend a science high school are high achievers. They are strongly motivated towards all the school subjects. Like the other Asian students the students perceive English just as an ordinary school subject. That's why the motivation level of SHS students was found to be higher than the others.

The participants were divided into high and low categories based on their final grades of 2009-2010 academic year. Seventy-seven students having an average of 70 which is minimum passing grade of the school or above would be the high proficient learners, and 64 students having a grade of 69 or below would be the low proficient learners. After carrying out the statistical analysis in order to find out whether there is a significant relationship between students' achievement and motivation construct it has been seen that the relation between the students' grades and motivational intensity is statistically significant at 0,014 level whereas the relationship between the grades and "desire to learn English" is not sufficient to suggest a statistically meaningful difference at 0,117 level.

Students of preparatory school seem to study English just to be able to get the passing grade since the students having grades under the minimum passing grade have slightly higher motivational intensity levels. But they don't seem to be motivated to learn the language. As Lanara (1999), in her study on Japanese students, indicates that some students who were not strongly motivated were taking English because it was a required course, were expecting good grades and they were looking forward to attending the classes.

Table 1
The relationship between some independent variables and Motivation Subscales

| | N | Mean±Std Dev | | t/F Value | | P | |
|---|---|---|---|---|---|---|---|
| | 141 | Motivational Intensity | Desire to Learn English | Motivational Intensity | Desire to Learn English | Motivational Intensity | Desire to Learn English |
| Gender | | | | 2,3 | 1,9 | 0,023 | 0,055 |
| Male | 82 | 1,7±0,4 | 1,5±0,3 | | | | |
| Female | 59 | 1,5±0,3 | 1,6±0,3 | | | | |
| Status | | | | 3,3 | 3,6 | 0,001 | 0,0001 |
| Compulsory | 90 | 1,7±0,4 | 1,6±0,3 | | | | |
| optional | 51 | 1,5±0,3 | 1,4±0,2 | | | | |
| Previous Prep Education | | | | 0,02 | -0,3 | 0,994 | 0,747 |
| Yes | 35 | 1,6±0,3 | 1,5±0,3 | | | | |
| No | 105 | 1,6±0,3 | 1,5±0,3 | | | | |
| Importance of English | | | | 5,9 | 6,0 | 0,0001 | 0,0001 |
| Important | 89 | 1,5±0,3 | 1,4±0,2 | | | | |
| Not Important | 52 | 1,8±0,3 | 1,7±0,3 | | | | |
| High School Type | | | | 2,9 | 4,4 | 0,037 | 0,005 |
| Anatolian | 53 | 1,6±0,3 | 1,5±0,2 | | | | |
| Public-Vocational | 57 | 1,6±0,2 | 1,5±0,3 | | | | |
| Private | 9 | 1,6±0,3 | 1,5±0,3 | | | | |
| Science* | 22 | 1,8±0,4 | 1,8±0,4 | | | | |
| Grades | | | | 2,5 | 1,5 | 0,014 | 0,117 |
| 0-69 | 64 | 1,5±0,3 | 1,6±0,3 | | | | |
| 70 + | 77 | 1,6±0,4 | 1,7±0,3 | | | | |

Mean +Sd *Causes the difference

Lastly the relation between the students' home background characteristics such as parents' educational background and motivational construct was examined. As for their parents' educational states are concerned, 26 (18,4%) students' mothers and 2 (1,4%) students' fathers seem to be illiterate. 69 (48,9%) of the students' mothers and 63 (44,6%) of the students' fathers are just graduate of primary school. 26 (18,4%) of the

students' mothers and 34 (24,1%) of the students' fathers are graduate of high school. 16 (11,3%) of the students' mothers and 32 (23,8%) of the students' fathers have a university degree whereas 4 (2,8%) of the students' mothers and 9 (6,3%) of the students' fathers hold an MA or PhD.

Also, 33 (23,4%) of the participants reported that their fathers have competency in the English language and 105 (74,4%) of the participants however reported that they do not have English competent fathers. Similarly, 19 (13,4%) of the participants reported that their mothers have competency in the English language and 122 (86,5%) of the participants however reported that they do not have English competent mothers.

Students' responses were analyzed according to parents' educational states and competency in English through one way analysis of variance and t-test to compare the means of dimensions to find out whether the difference was significant or not. It has been interestingly found out that none of the home background characteristics of the students significantly correlated with motivational intensity and desire to learn English subscales. The findings are displayed in Table 2. This was an unexpected case. Generally speaking, students with foreign language competent or high educated parents are expected to have higher motivation towards learning a foreign language.

Table 2
The relationship between home background characteristics and Motivation Subscales

| | N | Mean±Std Dev | | t/F Value | | P | |
|---|---|---|---|---|---|---|---|
| | 141 | Motivational Intensity | Desire to Learn English | Motivational Intensity | Desire to Learn English | Motivational Intensity | Desire to Learn English |
| Father's Foreign Language | | | | 0,6 | 0,4 | 0,409 | 0,202 |
| Yes | 33 | 1,6±0,4 | 1,6±0,4 | | | | |
| No | 105 | 1,6±0,3 | 1,5±0,2 | | | | |
| Mother's Foreign Language | | | | 0,7 | 0,9 | 0,483 | 0,324 |
| Yes | 19 | 1,6±0,3 | 1,4±0,3 | | | | |
| No | 122 | 1,6±0,3 | 1,5±0,3 | | | | |
| Father's Education Level | | | | 0,2 | 0,6 | 0,931 | 0,652 |
| Illiterate | 2 | 1,5±0,2 | 1,6±0,1 | | | | |
| Primary and Secondary School | 63 | 1,6±0,4 | 1,5±0,3 | | | | |
| High School | 34 | 1,7±0,3 | 1,5±0,3 | | | | |
| University | 32 | 1,6±0,3 | 1,5±0,3 | | | | |
| Post Graduate | 9 | 1,6±0,3 | 1,7±0,3 | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Mother's Education Level | | | | 2,1 | 1,4 | 0,083 | 0,213 |
| Illiterate | 26 | 1,7±0,5 | 1,7±0,5 | | | | |
| Primary and Secondary School | 69 | 1,6±0,3 | 1,5±0,2 | | | | |
| High School | 26 | 1,5±0,2 | 1,4±0,3 | | | | |
| University | 16 | 1,6±0,2 | 1,6±0,3 | | | | |
| Post Graduate | 4 | 1,9±0,3 | 1,5±0,5 | | | | |

## CONCLUSIONS AND RECOMMENDATIONS

This study primarily attempted to examine the level of students' motivational intensity and desire to learn English. It was also aimed to find out whether there was a relationship between certain variables of gender, grades, compulsory and optional states, high school type, parents' educational background and the degree of importance of learning English and motivational. Gardner's socio-economic model (1985) was the beginning of language research in motivation area. Later, Dörnyei (1994) specifically devised a model of motivation. But in the present study, Gardner's model of motivation was taken as the basis for the research at English preparatory school since it was thought to be systematic and comprehensive enough to determine the motivational factors in EFL settings. A background questionnaire and a scale aiming at measuring the level of motivation towards EFL learning were used to provide a descriptive and correlational analysis.

Three main results were obtained from the study. Firstly, EFL learners mainly have a low level of motivational intensity and desire to learn English. The research highlighted that students in the school study English with low motivational intensity and desire to learn English. In other words, it seems that they weren't motivated properly to study English and they study English since they simply have to. Secondly, student motivation is affected by a cluster of factors associated with language learning. Gender, compulsory or optional states of the students, importance of English, high school type and achievement in foreign language studies are important factors in determining students' motivational intensity and desire to learn English. Lastly, students', previous preparatory school education and home background characteristics have no effects on their motivational levels.

In conclusion, it should always be borne in mind that motivational factors play a big role in foreign language learning, and further researches need to be performed to suggest appropriate strategies that would help teachers to motivate their students and to train them to use strategies that would facilitate students' language learning. Also, further researches should be considered to determine the reasons of low motivation and fading motivation of the students towards learning English in the School of Foreign Languages to realize effective language teaching.

As a note on the limitations of the study, the subjects were limited to 126 EFL learners who were enrolled in the School of Foreign Languages at a State University, Turkey. Moreover, the scope of the study was confined to the data collected using the motivation scale and some selected variables. Given that the study investigates the level of motivation and the relationship between motivation and certain variables, further studies should focus on some other issues such as attitudes, beliefs, and anxiety levels.

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# EXPLORING DIFFERENTIALS ACROSS THE PRESCHOOL SYSTEMS IN THE MAGHREB REGION

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## ABSTRACT

This paper sheds light on how the economic background and socio-historical context have had a solid bearing on the preschool system in the Maghreb region. Building on a number of comparative studies from mainstream early childhood education literature across discrete cultural contexts, the paper seeks to investigate the influence of these social-cultural dynamics on the conceptualization of the preschool system. However, such impact does not only figure across countries with distinct cultural and geographical lines but rather among counties sharing almost the same cultural heritage. In this respect, it is thought here that a homogeneous cultural environment such that of the Maghreb countries (i.e., Tunisia, Algeria, and Morocco) does not necessarily subscribe to the same blueprint because of the significant differences which figure in regards to the structural organization and pedagogical agendas of preschools within each of the Maghreb countries.

**Keywords:** Early childhood, preschool, Maghreb countries, socio-cultural background.

## INTRODUCTION

Preschool is an educational body whose primary goal is to observe the pedagogical needs in early childhood education at the psychological, social and cognitive levels. This institution constitutes the interface between the educational space of the family and the community life of children (Terrisse, 1988). It seeks to maintain their affective balance and enhance their intellectual faculty from the earliest stages of communication.

As a matter of fact, there is substantial evidence in early child research literature postulating that children are disposed of multiple competences which are deeply rooted in the fetal characteristics of children (de Boysson-Bardies, 1996; Lécuyer, Pêcheux, Streri, 1994). The role of preschool here crucially consists in its being a tool which bolsters the synergy between the natural route of in-built development of children (i.e., novice learners) and the educational program devised by childhood practitioners (i.e., the expert) (Vygotsky, 1978).

Notwithstanding this collective recognition of the bearing of preschool on childhood education, preschool systems demonstrate huge diversity in as far as the pedagogical choices are concerned. Such preferences are systematically moderated by the cultural specifics of each country, which makes a given preschool system far from being nicely immersed in a cross-cultural pedagogical paradigm (Montessori, 1987). Each country establishes its own system in accordance with;

- the social status assigned to children,
- its definition of education, and
- the role of parents in the educational experience (Brougère, 2000).

In this respect, Tobin et al.'s (1989) study is designed to compare the preschool systems in Japan, the United States, and China at the level of their pedagogical preferences, objectives, and cultural values. This comparative study reveals significant evidence of the differences at the three levels. In fact, the inherent cultural features of a given country can be typically distinguished in the profile of a preschool system in view of the demographic characteristics, conflict management, and the place of the individual in his/her community.

Bédard (2002) sheds light on the commonality between Canada and Switzerland, two countries with an important number of ethnic communities. The cultural background of these two countries reverberates in their preschool systems through the introduction of an inter-cultural dimension that aims to consolidate the social integration of these ethnic communities and to broaden the interface of interchange between them, most notably in the Switzerland of late 1980s. This pedagogical agenda is best illustrated by

- the implementation of foreign language learning programs as a complement to learning the official languages as well as
- other programs designed to observe social behavior on the basis of tolerance and diversity (Postlethwaite, 1995).

## JAPAN AND THE UNITED STATES: The Place of the Individual in the Group

Surveying the Japanese preschool system, Tobin et al. (1989) observe that there is one child educator per thirty preschoolers. At the pedagogical level, Tobin and his associates observe that the educator does not often help them during their engagement in a task or activity, nor does she intervene when occasional conflicts take place. There is indeed a substantial amount of freedom given to children in choosing and conducting their activities added to the importance given to learning socialization skills within the group (Kato-Otani, 2004). Importantly enough, it is in general mothers with credentials who oftentimes abandon their career jobs to be in charge of education of their children throughout the preschool years. In light of the typical one-child composition of Japanese families and the lack of socialization for the lonely mothers, Japanese preschool practitioners report that among the problems hard to grapple with is the absence of child-to-child contact. This is why childhood educators tend to minimize their intervention in conflict situations and focus on the relational behavior of children.

In the United States, however, there is one child educator per twenty preschoolers where the child-educator interaction is highly individualized. The educator usually intervenes when it comes to limiting or avoiding conflicts. Here, the main purpose of education consists in the psycho-motor development of children in addition to their self-worth and their emotional. The preschool experience should be therefore likened to an enjoyable enterprise (Tobin et al., 1989). This explains in part how the American culture is based on one's awareness and valuing of individualism, and so the pedagogical decisions at the preschool educational system cannot deviate from this cultural frame of mind.

Tobin et al. (1989) contend that the relationship between parents and the preschool institution is deeply anchored in the socio-economic and political context in a given country. Preschool tends to meet the expectations of parents in accordance with a nation-wide format that provides a set of standards for an educator to follow, which may insinuate a way of thinking in tandem with the free-market spirit of the country. Contrariwise, the expectations of Japanese lonely mothers are centered around the value of socialization and interaction which may avail both their children and them. To a certain extent, these expectations decidedly account for the tendency in Japanese preschools to organize social encounters and opportunities of exchange, not only between children but also between their families.

## CANADA: A Dual Culture

The Canadian preschool system garners huge importance to the play concept in the learning course of young children. Accordingly, Bédard (2002: 11) notices "Quebec has recently witnessed a breakthrough in the conceptualization and implementation of new tools and services designed for early childhood [and that] the socio-economic and demographic evolution of the Quebec society has among other things called for huge demands insofar as preschool education services are concerned." To such demand, the Quebec government intervened to set the guidelines to standardize in a sense this booming sector of education. Through a 1997 reform, they intended to redefine the concept of play and its utility so as to optimize the learning techniques and homogenize the learning rate of children. This policy, Bédard (2002) comments, is an attempt to "abandon the spontaneous" spirit that characterizes the evolution of the preschool system in Canada. In fact, this change of heart is, according to Bédard (2002: 18), ascribed to confusion in the interpretation of the concept of play as to whether one should focus on the pleasurable side of play or its empirical dimensions to expedite and enhance the learning process.

Bédard (2002) maintains that role play is no more than a means used to strengthen the child's ability to internalize knowledge and consolidate his/her fledgling skills. Play is hence a pedagogical method that systematically provides adequate motivation for children to meet the challenges of acquiring new knowledge and developing their competences. At this juncture, with reference to the above reform, Bédard (2002: 65) distinguishes between "spontaneous free play" and "learning process." Accordingly, the virtue of play lies in the comprehensive development of children, including his/her psycho-motor, affective, social, and linguistic and cognitive competences. The play concept is not merely an activity without a rationale nor simply an act of participation of the child in his/her environment. It is rather a constructive learning instrument which seeks to enhance the qualitative aspect of preschool education through developing cross-sectional competences (i.e., intellectual, methodological, communicative, etc.) (Bédard, 2002). As to children of an advanced age, there are childcare centers which foster their curiosity as they allow them to explore following skill domains, such as languages, mathematics, social environment, and music.

Through an in-depth look into the influence of bilingualism on the Canadian preschool system, one may notice that there has been a successful integration of the francophone and anglophone cultures. In fact, this merger spirit was partly inspired by the old French preschool system where in 1777 some childcare centers in France used to focus on play activities and verbosity skills (Pougatch-Zalcman, 1980). The play concept was further reinforced in the curricular decisions in relation to the Canadian preschool system in light of the then emerging ideas of Piaget and Vygotsky. In this vein, several recent assessment projects specialized in early childhood education, such as Bara and Gentaz (2004), pinpoint to the variety in the policy of the preschool system. It includes, among other things, focus on the psychological and social development with respect to play activities and tasks that encourage the values of solidarity and competition beyond the family confines.

As regards the influence of the anglophone culture, its characteristics reside in the qualitative aspect of functioning in the preschool system and it is manifest in the child's involvement in the choice and engagement of the pedagogical activities. The anglophone preschool system focuses on the quality of the services offered to preschoolers. In other words, the pedagogical objectives are related to integral areas of child educations such as self-esteem, motivation, ability to take decisions, independence, etc. Among these typical activities to observe these areas of development, preschools:

- Integrate elements of pleasure in all the activities (e.g., confidence-building tasks) assigned to children.
- Make assessment follow-ups and communicate estimates to parents.
- Discuss with children their works in order to boost their intellectual and motor abilities and eventually their autonomy.

## THE MAGHREB REGION

Although the modern preschool system has recently received unprecedented attention in the Maghreb countries, the number of preschoolers still remains insignificantly disproportionate with the child population therein[1]. Preschool is still elective and in most of the cases is not programmed in the general curricular agendas of these countries. Hence, it does not qualify as necessary step for young children to subsequently join the primary school. In fact, it is only middle-class children who represent the majority of preschool attendants (Tlili, 2004). The three Maghreb countries of Tunisia, Morocco, and Algeria share a huge interface and a cultural heritage which includes a common language (i.e., Modern Standard Arabic), geographical contiguity, similar history (e.g., French colonization), and solid ethnic kinship. In light of such similarities, the question which worth-addressing here is whether this reasonably homogeneous background may intimate a uniform preschool organization across these countries or perhaps a great deal of structural and conceptualization discrepancies.

## MOROCCO: The Apogee of Kuttab[2]

According to Bengharbit-Remaoun (1993), the sector of preschool education has evolved tremendously in the early 1990s thanks to the governmental efforts and consciousness raining within the community. In consequence, less than one-third of the three million populations of Moroccan children aged between 3 and 7 attended preschool in 2003 and based on the governmental statistics, preschool attendance would peak by the end of the decade. However, the Kuttab still receives 77.34% of children of preschool age) despite the variety of parallel educational institutions (e.g., private and public childcare centers, schools for foreign citizens' children, etc.).

The peculiarity of the Moroccan preschool system consists in the consideration of the Kuttab at the heart of this educational institution. Bouzoubaa and Bengharbit-Remaoun (2004), in this respect, explain that contrary to the majority of the Arab countries where the Kuttab is of a peripheral importance, not only has the Moroccan government reinvigorated this institution it has also provided it with financial support. Concurrently, the pedagogical policy has been made clear after passing a law that specifies the major guidelines to endorse in preschool education.[3] Among the objectives set by the government are learning of a considerable number of verses from the Koran, fundamentals of the Islamic faith, patriotic and humanistic values, development of sensorial competences and creativity, and development of reading skills and writing skills in Arabic, and familiarization with the Amazigh language[4].

The weight of the religious aspect in the Moroccan preschool system, being manifest in the prevalence of the kuttab institution, accounts for the socio-cultural setup of this country which is basically ruled by an Islamic monarchy. This peculiarity enables children, irrespective of their socio-economic background and region of residence, to receive the basic level of education. The easy access to the kuttab represents in some way a

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[1] Organisation arabe de l'éducation, de la culture et des sciences. (2000). *La stratégie arabe pour l'éducation préscolaire, période de l'école maternelle.* Tunis.

[2] The *Kuttab* is an elementary school generally situated in Mosque buildings and it dates back to the early days of Islam. The main subject of instruction in this educational institution is the rote-based learning of the Koran under the supervision of the *Meddeb*. Other skills are equally involved such that of reading and writing Classic Arabic.

[3] One characteristic of the 2000 law, entitled "The Basic Status of Preschool Education," is that the government delegates the management of preschool education to the private sector and only concentrates on the areas of regulations and pedagogical training.

[4] The Amazigh language is spoken by people of North Africa (the Maghreb). It used to be the main language before the spread of Islam in this region. Despite the domination of Arabic and French, being the official languages, the use of Amazigh language remains important among the Berber communities especially in Morocco and Algeria.

solution to the economic hindrances that prevent the mainstream of child population from joining private preschool institutions especially in the rural areas.

### ALGERIA: Absence of the Play Aspect

Although early childhood education is to a large extent shaped by the family, by the street, being considered as the playground, and by the Mosque, the preschool system became popular starting from the 1990s (Mékidèche, 1996; Senouci, 1992). In fact between 1998 and 1999, preschool education reached 3.8 % of institutions under the management of the Ministry of National Education. In 2003, a research study, financed by UNICEF, reported 11 % of Algerian children attended preschool with 24 % of this population were under the legal age. Also reported was that in 2004 the number of preschoolers projected to reach record attendance. In this vein, a national committee in Algeria assigned a team of education experts to elaborate a reference plan involve the age range of 5-to-6 years.

Regardless of the structural diversity in the Algerian preschool system (e.g., childcare centers, specialized clubs, etc.), all these educational institutions seem to follow the same pedagogical line. Aside from preparing children for the basic school level, the main objective revolves around the following: teaching should be exclusively in Arabic, teaching social rules of etiquette, physical education, patriotic awareness rising, learning in team work, focus on artistic activities and creativity, and introduction to reading skills and mathematical logic (Senouci, 1992). It should be noted here that the pedagogical conception is academically-oriented due to social pressure to prepare children for 'better' future education. Such effort may greatly appropriate the preschool education system in order to resemble the basic school format at the expense of the play and socialization characteristics. Importantly enough, some interviewed 1669 educators admitted that the ultimate objective was to ensure a profound schooling career for children (Bouzoubaa & Bengharbit-Remaoun, 2004). This attitude reveals the problem of training shortage which largely explains why the majority of childhood educators resort to switching to old reflexes and traditional and socially-biased definition of childhood and education.

In fact, all the interviewed 1087 educators showed preference for reading and writing activities (90.24 %). Similarly, the interviewed 5547 parents voiced consistent expectations concerning preschool which highly accord with those of the educators.

To such complementarities between social pressure and lack of educator training, the report suggested that the blueprint of objectives and their implementations be revisited with a view to encouraging the element of pleasure, developing children's emotional intelligence, and stimulating their intrinsic motivation.

The absence of the element of pleasure in the Algerian preschool system and the focus on teaching values of patriotism deeply reflect a socio-cultural reality which emanate from a tragic historical and social background. Indeed, the French colonization, which lasted for more than 150 years and left 1 million Algerians dead, was followed by a bleak wave of terrorism during the 1990s.

These historical events have occasioned continual traumas in the social character of the Algerian society where little room is left for the aspect of pleasure and entertainment.

### TUNISIA: Edging Between Modernity and Tradition

Tunisia has a comparatively advanced record in its effort to promote the preschool system, notably with regard to infrastructure and childhood educator training (Djaziri, 2006). The kuttab is negatively viewed by parents as an antiquated institution which can hardly meet the expectations of modern life. Accordingly, the 'Meddeb' (i.e., the person in charge of teaching children in the Kuttab), for instance, does not receive any form

of training and his role is only to use drilling tasks for children to repeat and learn by heart verses from the Koran.

Consequently, he does not acquire the basics of professional supervision, which makes him resort to aggressive punitive measures such as beating and insulting children who commit mistakes (Rejeb, 1985). Concurrently enough, the political will seem to accommodate to the mainstream expectations of early childhood education. In this vein, the Act No. 65, implemented on July 29, 1991, set the major objectives which define the preschool system in Tunisia:

- Strengthen children's sense of patriotism and civil society and promote their openness to other civilizations.
- Help children build their personality and maintain the values of tolerance and solidarity.
- Develop children's emotional intelligence, various competences, and critical spirit, intellectual capacities and prompt them to take the initiative and foster their creativity.
- Ensure a balanced distribution of the different areas of learning.

Overall, the educational paradigm to which the Tunisian mainstream preschool system subscribes is diverse enough to include, in addition to the element of pleasure, objectives attendant to the psycho-motor, cognitive, social, affective, communicative, and creative development of children's personality. The Tunisian experience has certainly evidenced some progress due to the government's effort to generalize this educational model across all the regions of the country. However, the problem which emerges out of this undertaking lies in the mismatch between the political text and its practicality in everyday life. As to the act of parliament mentioned above, it insists on the necessity to orient early childhood education not only to the acquisition of values of patriotism and Arab-Muslim belonging but also to learning values originating from other civilizations. As a matter of fact, while leaving behind the traditional option of the kuttab and the teachings of religious values due to the unpopularity of this institution, Djaziri (2006) postulates that there is no real acculturation effort to fully immerse into other cultures, especially the ones from Western Europe.

The case of the French experience may illustrate this mismatch. Although French is taught as a second language, its approachability among Tunisians is limited mainly due to being taught at a relatively advanced age of children (i.e., 10 year-olds). Perhaps one of the qualities of modern time Tunisia is the linguistic mix between French and Arabic (i.e., code switching).

Nonetheless, this combination does not qualify as a mark of acculturation, that is, the proportionate coexistence of both Arab and French cultures in one's frame of mind. Despite the social and political effort to promote French, the limitations of such endeavor may be explained by the absence of clear methodology and implementation tools of teaching French in preschool curricula.

At this juncture, one may subscribe to the assumption that there is a hidden mix up underlying the preschool system in Tunisia. This disorder reverberates in the socio-cultural context this country which figures in the emergence of many discrepancies in social life such as psychotherapy being paralleled by the existence of psychic business, alcoholism and religious devotion, the large inventory of French lexicon in common people's native Tunisian Arabic dialect, and the intermittent effort to promulgate Arabism in the public sector (i.e., at the level of ministries and governmental agencies) and bias to the French language in the private business institutions.

## CONCLUSION

The present article has broached the issue of how the conceptualization of preschool is differentially dealt with by counties which have disparate cultural peculiarities (e.g., Japan, France, The United States, etc.). The nature of variation attendant to the definition of the preschool system can be chiefly attributed to the historical,

social, and material determinants specific to each of these countries such as the place of the individual in the United States and the impact of bilingualism in Canada. However, such variation does also occur in counties which are believed to be culturally homogeneous.

As a case in point, the Maghreb countries illustrate considerable diversity in as far as their preschool systems are concerned. This diversity is manifest in Tunisia's policy of openness which masks cultural disarray that is reflected on the unclear pedagogical choices.

The case of Morocco, poverty and cultural heritage largely explain the governmental preferences for and support of the old preschool system of the kuttab. Algeria's historical background together with social pressure for academic success may account for the absence of the element of pleasure and entertainment in the preschool agenda.

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# MOTIVATIONAL ANALYSIS AMONG SCIENCE TEACHERS ABOUT ENVIRONMENTAL EDUCATION -A CASE STUDY OF DISTRICT BANDIPORA (JAMMU AND KASHMIR) INDIA

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## ABSTRACT

The environmental education in schools, colleges and universities plays a vital and indispensable role in improving the national quality and strengthening students' environmental consciousness. The purpose of this study was to investigate how aware are the science teachers in secondary school of environmental issues while teaching science in classrooms.

In the present study we determined awareness levels of prospective science teachers on various environmental aspects using a qualitative and quantitative analysis. The study was carried out in the form of a case study with about 400 teachers teaching up to the class VII in secondary schools of different educational zones in district Bandipora during the academic year 2008-2009.

The sampled teachers were divided into four groups such as, science teachers of govt. schools (STGS), science teachers of private schools (STPS), other subject teachers of govt. schools (OSTGS) and other subject teachers of private schools (OSTPS). A standard questionnaire was prepared incorporating diverse issues of environmental science and applied to all the sampled teachers.

According to the data obtained from the questionnaire results, significant difference were observed in the levels of environmental knowledge and perception in different groups of teachers owing to variability in their educational background, depth of interest, extent of seriousness, professional commitment, scientific attitude and sense of societal responsibility etc. However, the STGS group appeared most prospective with likelihood of improvement and doing better. The study calls for urgently putting in place the strategies and policies by the Education Department so as to safe guard the environment.

**Keywords:** Environmental education, teaching strategies, science teachers, school education, private and govt. schools, environmental consciousness.

## INTRODUCTION

People in recent past were not only unaware but also least bothered about the environmental problems and their long term implications. But when environmental catastrophes struck the mankind in the form of huge destruction and challenges like global warming, ozone depletion, degradation of terrestrial and aquatic

ecosystems and the biodiversity sustained by it, man was forced to become conscious about the importance and magnitude of such of environmental problems (Gupta et.al., 2004). Now though "environment" has become a catchword representing the worries of not only present generation but also the future generations yet very few actually know the same in real perspective.

In the present scenario environment has been conceptualized through every possible way because people have now become over-conscious about the complex man and environmental relationships. It is now mandatory and of paramount importance to create environmental awareness among common masses especially from the early stage of school days (Watts, 2001). Indeed educational institutions are the biggest organized sector for imparting such type of education regarding the importance of conserving environment.

Through schools we can transform the environmental education which in itself is the process that fosters greater understanding among common people about the environmental problems and off course their solutions and also to develop the specific skills and insights, important to understand the structure, requirements and impact of interaction within environmental entities, systems and sub systems.

Nowadays environmental education though has been made mandatory for the schools at different levels by the court of law and has been included in various forms in the school curricula (Thomos et.al., 2001), yet the basic objectives remain far from realization.

Teachers of govt. and private schools, in view of their different educational background, subject specialization and depth of interest considerably very in their view points and perspectives about environment. Such a diversity of perspectives has a long term implications for the way environmental education is imparted to the student community. Hitherto no attempt has been made to evaluate the level of environmental knowledge and understanding among teachers and students. Therefore the present study was conducted to assess the level of environmental awareness among the science teachers and other subject teachers of different schools in the different educational zones of district Bandipora.

Since no such study has been undertaken till date we took initiative to look into the problem and know the approach of teachers to the environmental education.

### Targeted Group

The study was conducted on 400 teachers teaching from primary to secondary classes in different schools of District Bandipora (both government and private) keeping their qualification and length of service into consideration. The target group of teachers in the present study included four groups of teachers such as:

- SCIENCE TEACHERS OF GOVT. SCHOOLS (STGS)
- SCIENCE TEACHERS OF PRIVATE SCHOOLS (STPS)
- OTHER SUBJECT TEACHERS OF GOVT. SCHOOLS (OSTGS)
- OTHER SUBJECT TEACHERS OF PRIVATE SCHOOLS (OSTPS)

### Tools Used

To assess the awareness and attitude of teachers towards environment and its different components; a standard questioner was developed by the authors that was administered and applied uniformly to different group of teachers. The questioner contained questions pertaining to diverse environmental issues from global to local level.

## METHODOLOGY

For the present study 100 teachers of govt. schools, 100 teachers of private schools, 100 other subject teachers of Government schools and 100 other subject teachers of private schools were randomly selected.

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The surveyed teachers teach in both government and private sector schools of four educational zones namely Bandipora, Quilmuqam, Sumbal and Hajin of district Bandipora (J&K) India Difference in the performance and level of environmental awareness was calculated by applying t-test. Questions in the questionnaire were ranked according to the degree of commonness and rarity.

The first ten questions of each of the four groups was compared within each other .In this way some aspects of knowledge regarding to the environmental education were found to be common in each group and certain areas were also identified in which four groups differed from each other.

After the analysis it was found that 80% of the Science subject teachers were aware of the environmental issues while as the percentage of awareness about environmental problems among other groups gradually decreased depending upon their subjects which are other than science subjects.

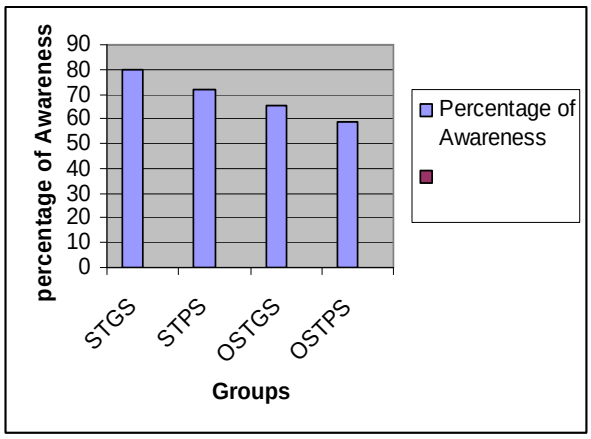
## RESULTS

The numbers of the subjects (N) mean score (M) standard deviation (SD) and t value of each group is shown in the table 1.

Table 1

| Groups | Number | Mean | SD | t-value | Df P<0.5 |
|---|---|---|---|---|---|
| STGS | 100 | 14.75 | 6.22 | | |
| STPS | 100 | 10.2 | 7.02 | 0.71 | |
| OSTGS | 100 | 9.1 | 7.26 | | 12.71 |
| OSTPS | 100 | 7.3 | 9.51 | 1.94 | |

The t value indicates that there is a significant difference in the performance of these two groups on their awareness of knowledge about environmental education besides t value indicates that there is also minor difference in the performance of subjects of these two groups on the awareness regarding the environmental education.
Further the difference is in favor of STGS however the score of both these groups are better as compared to their peers. The teachers of these groups have done well because of their enthusiasm to learn more and more about the new subjects.



Comparison of different groups of teachers in relation to percentage of Environmental awareness.

Evidently, this difference in the teacher of govt. schools is due to the lack of interest, seriousness towards their job, their attitude, and lack of accountability. There is a visible difference between the two groups. It has been observed these the STGS group can do better if interest is developed among them keeping the resources available to them in mind.

## DISCUSSION

The study was done with an aim to develop an understanding among the teachers of various disciplines about the ecological systems (Rajput et.al., 2000) and the place of human beings within those systems and also to know the areas in which they lack the activity oriented approach (Yang Jun et.al., 2001). It was felt that this study would be help full while framing the environmental based curriculum for trainees as a part of their training conducted by various agencies of department of education.

It is evident from the data of this study that the various groups of teachers have some general awareness about some aspects of environment. The awareness percentage about understanding the environment in its true sense is poor amongst all the teachers irrespective of their nature of employment, educational background etc.

## CONCLUSION

After going through the present study it has been found that the teachers of science stream lack interest, self-motivation and enthusiasm to promote the environmental education, as compared to the teachers of private schools who are relatively more eager to do better in every field. However the teachers belonging to the other streams, of both government and private schools are more interested to learn and adopt the science and activity eco-oriented methodologies being ever ready to modify their methods of teaching to promote and propagate environmental education.

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# STUDENTS' PERCEPTIONS TOWARD VITAMIN EDUCATION SUPPORT SERVICE

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## ABSTRACT

Vitamin is an education support service which is compatible with the MNE's curricula, is accessible through the internet, and was developed for teachers and students. Vitamin's purpose is described as helping students better understand lessons and realizing full learning. Vitamin provides students and teachers with e-education solutions blended with state of the art visual content and interaction and offering a personalized learning process. The present study aims to determine students' perceptions toward Vitamin's effectiveness and usefulness. It is a descriptive study designed on the basis of the survey model.

The study group consists of 688 students studying in the $4^{th}$-$8^{th}$ grades in Husnu M. Ozyegin Primary School in the central province of Kirsehir. The data were collected using the Scale on Students' Perceptions toward Vitamin ($\alpha$=0.956) developed by the researchers. The collected data were analyzed using frequency, percentage, arithmetic means, standard deviation, Anova and LSD statistics. The results obtained through the analyses could be summarized as follows: Most of the students find Vitamin useful. Besides their positive views about Vitamin, the students also think that Vitamin may have adverse effects for them. A great majority of the students do not use Vitamin. The more frequent the students use Vitamin, the more positive their attitudes toward Vitamin. Furthermore, the levels of positive perceptions among the students who never use Vitamin are lower than those of others. The students' positive views about Vitamin decrease with increasing grade level, while their negative views increase.

**Keywords:** Computer, internet, education, Vitamin, blended learning, online learning.

## INTRODUCTION

Given education's increasing importance, one cannot possibly overlook the possibility of educating individuals out of the reach of formal education. In this context, the most significant application to be offered as a solution is distance education (Ekici, 2003). Distance education could be defined as training students individually where they live without the need for a physical school environment when the instructor is geographically distant (Tuncer and Taspinar, 2007; Keegan, 1986). In distance education, teachers and students can be gathered together using various technologies. For Moore and Thompson (1990, 8), such means include printed materials and books, as well as audio-visual recordings and cable or satellite interactive teleconferences. This type of education is also supported using environments such as teleconferences and web-based education depending on technological developments (Ergul, 2007). Odabas (2004) argues that certain changes have been caused in education by the increasing use of information technologies at individual and institutional levels in Turkey (cited in Turan and Colakoglu, 2008).

All such developments led to the introduction of new concepts and definitions to the field of distance education. For instance, Odabas (2003) broadly refers to interactive data exchange through sophisticated technological means between students and educators who are distant from each other as "Internet-Based Distance Teaching". Sebetci (2008) argues that the interface used to transfer documents containing texts, images, sounds, real motion videos, simulations and animations synchronously or asynchronously between students and the instructor using the internet and computer instruments could be termed as "Web-Based Distance Education". Horton (2000) uses the concept of "Web-Supported Teaching" to refer to the use web technologies to educate individuals. Instead of these concepts, the concept of "Online Learning" is also used in the literature.

As a result of the rapid advances in information technologies, online learning/teaching environments have increasingly become more widespread. However, the fact that online learning/teaching environments lack many important advantages of face-to-face environments led to the emergence of the concept of blended learning (Korkmaz, Karakus, 2009). Therefore, integrated use of online learning and conventional learning environments is argued to be much more efficient in solving educational problems and meeting educational needs (Murphy, 2003). By combining various models of face-to-face educational environments and distance education environments, blended learning allows using all technological means and joining the strongest and more advantageous aspects of both environments to provide effective and efficient teaching (Signh, 2003; Usta, 2007; Horton, 2000). Morgan (2002) and Young (2002) defined blended learning simply as using the best aspects of both methods.

As for the examples of such applications in Turkey, it could be argued that the educational potential offered bt information and communication technologies is still not sufficiently employed to meet educational needs. Nevertheless, Ozkul (2004) notes that important projects on the subject are underway. Vitamin education support service can be cited as an example for such projects. Vitamin is an education support service which is compatible with the MNE's curricula, is accessible through the internet, and was developed for teachers and students. Vitamin's purpose is described as helping students better understand lessons and realizing full learning (SEBIT, 2010). Vitamin provides students and teachers with e-education solutions blended with state of the art visual content and interaction and offering a personalized learning process (SEBIT, 2010). On the other hand, different versions of Vitamin are available for many countries. Examples include "Adaptive Curriculum" US version, "form2" Malaysian version, "Tianyi" Chinese version and "m3com" Saudi Arabia version (SEBIT, 2010; Adaptive Curriculum, 2010). Vitamin education support service offers two different kinds of content for elementary and high school levels. As the subject of this study, "Vitamin Elementary" covers the subjects of Mathematics, Science and Technology, Turkish and Social Studies from $4^{th}$ to $8^{th}$ grades of primary schools. It contains lesson teaching about these subjects, as well as experiments, exercises, examples and tests developed for students. SEBIT (2010) notes that all Vitamin content is compatible with the Ministry of National Education curricula and that this learning environment was designed by taking into consideration students' individual differences and different learning styles. In addition to its smart characteristics like detailed performance monitoring about students, through the nation-wide examinations, it also allows thousands of students participating in these examinations to assess themselves at school, province and national levels.

Certainly, one basic requirement for this system's usefulness is its attraction for students. Arguably, Vitamin's attraction for students is directly related to how they perceive it. This study aimed to reveal students' positive and negative perceptions toward Vitamin's usefulness.

*Problem Statement:* What are students' perceptions toward Vitamin?
*Sub-Problems*

1. What are the students' perceptions toward Vitamin's usefulness?
2. What are the students' perceptions toward Vitamin's adverse effects?

3. 3 Do the students' perceptions differ with the frequency of Vitamin use?
4. Do the students' perceptions differ with grade level?

## METHODOLOGY

### Research Model

This is a descriptive study designed on the basis of the survey model. As is known, descriptive studies aim to describe the cases involved.

On the other hand, survey models mainly aim to reveal an existing situation in the way it exists and using an objective approach (Karasar, 1999). Similarly, the present study attempts to describe the students' perceptions about Vitamin.

### Study Sample

The study sample consists of a total of 688 students studying in the $4^{th}$-$8^{th}$ grades in Husnu M. Ozyegin Primary School in the central province of Kirsehir. Table 1 summarizes the sample-group students' distribution according to their grade levels.

Table 1
Students' Distribution according to their Grade Levels

| *Grade Levels* | *Number of Students* |
|---|---|
| 4 | 203 |
| 5 | 104 |
| 6 | 133 |
| 7 | 108 |
| 8 | 140 |
| *Total* | *688* |

### Data Collection Instruments

The data were collected using the Scale on Students' Perceptions toward Vitamin developed by the researchers. When developing the scale, an interview form was used containing seven open-ended questions addressed to the students. The interview form was examined through the method of document examination and as a result of expert opinions; an item pool of 78 items was formed. For the construct validity of the scale, first of all, the data collected during the process of scale development could be subjected to Kaiser-Meyer-Oklin (KMO) and Bartlett test analyses (KMO=0.953, $p<0.001$) to perform factor analysis. Factor analysis was performed on the data to determine the construct validity of the 78-item scale version.

Principle Component Analysis was first performed for the scale to determine whether they are one-dimensional. Varimax orthogonal rotation technique was applied to divide the scale into unrelated factors.

In evaluating the results of factor analysis, the basic criterion involves the factor loadings in the scale which can be interpreted as the correlations between the variables and factors (Gorsuch, 1983: Rummel, 1988).
High factor loadings are considered to indicate that the variable could be included under the factor in question (Buyukozturk, 2002).

As a result of the Principal Component Analysis used for factor analysis and the Varimax Orthogonal Rotation

Technique applied in parallel, a different number of factors were identified in relation to the scale.

The items with factor loadings below .30 and those that are included under multiple factors (39 items in total) were removed from the questionnaire and the same procedure was repeated.

Thus, it was found that the Vitamin Student Perception Scale is divided into two factors. These two factors account for 42.75% of the total variance.

For the first factor containing 27 items under the title "Vitamin's Usefulness", the factor loadings vary between 0.728 and 0.532, with a contribution of 29.84% to the total variance.

This factor has an Eigenvalue of 11.64. For the second factor containing 17 items under the title "Vitamin's Adverse Effects", the factor loadings vary between 0.735 and 0.547, with 12.02% contribution to total variance.

This factor has an Eigenvalue of 5.04. Cronbach Alpha coefficients were computed for the internal consistency studies of the questionnaire. The overall questionnaire with 39 items has an internal consistency coefficient of 0.902, which was calculated as 0.948 for the first factor and 0.809 for the second factor.

### Data Analysis

To analyze the data collected using the Vitamin students' perceptions scale, the responses to the five-point Likert-type scale were taken together, raw scores were computed for each sub-factor, and these raw scores were translated into a standard score ranging between 20 as the lowest and 100 as the highest value.

The data gathered through the perception scale were subjected to frequency, percentage, arithmetic means, t, variance, LSD, and Pearson's r correlation statistics. The significance level of .05 was used in the significance tests for differences and relationships.

Since the students' responses were obtained from a five-point scale, the score ranges were identified in data analysis as follows;

| | | |
|---|---|---|
| 1.00-1.79 | Strongly disagree | (5-1=4/5=0.80) |
| 1.80-2.59 | Disagree | |
| 2.60-3.39 | Undecided | |
| 3.40-4.19 | Agree | |
| 4.20-5.00 | Strongly agree | |

Mean scores calculated on the basis of students' responses are explained using the above levels.

## RESULTS AND INTERPRETATION

### Students' Perceptions toward Vitamin's Usefulness

Table 2 summarizes the results concerning the students' positive perceptions toward Vitamin's usefulness.

Table 2
Students' Perceptions toward Vitamin's Usefulness

| *Positive Views* | $\overline{X}$ | *Sd* |
|---|---|---|
| Vitamin contributes to my success in lessons. | 3,96 | 1,102 |
| Vitamin helps my assignments. | 4,06 | 1,115 |
| I enjoy studying with Vitamin. | 4,04 | 1,083 |
| I can repeat school lessons using Vitamin any time I want. | 3,86 | 1,219 |
| Vitamin's visual teaching of subjects makes important contributions. | 4,04 | 1,088 |
| Vitamin offers me a special learning environment. | 3,87 | 1,115 |
| Vitamin allows solving the SBS questions of previous years. | 3,91 | 1,140 |
| Vitamin significantly contributes to preparation for SBS examination. | 4,09 | 1,069 |
| Vitamin contributes to the reinforcement of school subjects. | 4,13 | 1,062 |
| I think Vitamin is useful as it offers a teaching style that is different than that of the school. | 3,69 | 1,179 |
| What is learnt through Vitamin is better retained. | 3,77 | 1,151 |
| Vitamin helps me complements my learning at school. | 4,07 | 1,086 |
| Vitamin allows me to take breaks any time I want when I am tired of studying. | 3,91 | 1,137 |
| Vitamin entertains me while studying. | 3,98 | 1,088 |
| I can also make experiments in Vitamin's environment when I need. | 3,93 | 1,159 |
| I think Vitamin improves my thinking skills. | 3,94 | 1,111 |
| The applied teaching of certain lessons on Vitamin helps me. | 4,07 | 1,094 |
| I think I learn faster in Vitamin's environment | 3,74 | 1,174 |
| I believe that I study more efficiently using Vitamin. | 3,75 | 1,149 |
| Vitamin improves my computer skills. | 3,79 | 1,213 |
| Vitamin improves my classroom performance at school. | 3,85 | 1,142 |
| I think using Vitamin is helpful. | 3,99 | 1,098 |
| Vitamin eliminates the time limits to learn the subjects. | 3,71 | 1,187 |
| Vitamin creates a strong willingness to study. | 3,95 | 1,124 |
| I can pause and rewind videos on Vitamin. | 3,93 | 1,151 |
| Vitamin enriches our vocabulary. | 3,90 | 1,112 |
| We can assess our knowledge through the quizzes in Vitamin. | 4,02 | 1,088 |
| General Average | 3,92 | 0,734 |

N=688

As seen in Table 2, the students' positive perceptions towards Vitamin range between $\overline{X}$ =3.69 – 4.13, and the general average is $\overline{X}$ =3.92. Thus, it could be argued that the students "agree" with Vitamin's usefulness.

On the other hand, given the proportion of general average to standard deviation (relative variance coefficient), their perceptions towards Vitamin's usefulness has a normal distribution.

**Students' Perceptions towards Vitamin's Adverse Effects**

Table 3 summarizes the results about the students' perceptions towards Vitamin's adverse effects.

Table 3
Students' Perceptions towards Vitamin's Adverse Effects

| *Negative Views* | $\overline{X}$ | *Sd.* |
|---|---|---|
| I do not use Vitamin as I do not believe it is useful. | 3,01 | 1,469 |
| Studying with Vitamin makes us spend much time on the internet. | 2,48 | 1,303 |
| Vitamin may prevent students from studying by wasting their time. | 2,94 | 1,460 |
| I do not want to use Vitamin as it contains useless games. | 2,88 | 1,437 |
| I think certain lessons I need are missing in Vitamin. | 3,29 | 1,270 |
| Vitamin will not serve very useful as it is a virtual a virtual environment and fails to offer a concrete learning environment like in the classroom. | 3,33 | 1,254 |
| When I sit before the computer to use Vitamin, I cannot help surfing on other websites. | 3,01 | 1,469 |
| We do not need Vitamin because success depends on our own efforts. | 3,06 | 1,349 |
| Vitamin leads students to laziness. | 2,67 | 1,490 |
| Textbooks will seem unnecessary when we have Vitamin. | 2,68 | 1,489 |
| It is hard to compete in the contests in Vitamin. | 3,07 | 1,341 |
| Vitamin breaks down students' communication with their parents. | 2,59 | 1,558 |
| General Average | 2,91 | 0,801 |

N=688

As it is clear from Table 3, the students' perceptions toward Vitamin's adverse effects range between $\overline{X}$ =2.48 – 3.33, and the general average is $\overline{X}$ =2.91. So arguably, the students are "uncertain" about Vitamin's adverse effects. To sum up, it could be argued that most students find Vitamin useful; however, they also believe that it has adverse effects on them.

**Frequency of Vitamin Use among Students**

Table 4 summarizes the results regarding the students' frequency of Vitamin use for their lessons.

Table 4
Frequency of Vitamin Use among Students

| *Frequency of Use* | *f* | *%* |
|---|---|---|
| Never | 408 | 59,3 |
| Once a month | 91 | 13,2 |
| Once a week | 106 | 15,4 |
| More | 83 | 12,1 |

| | | |
|---|---|---|
| *Total* | *688* | *100,0* |

As shown by Table 4, more than half of the students (59.3%) never use Vitamin, while 13.2% use it once a month. The rate of students who frequently (more than once a week) use Vitamin is 12.1%.

Thus, it can be claimed that a great majority of the students do not use Vitamin. Table 5 summarizes the results concerning the differentiation in the students' perceptions towards Vitamin according to their frequency of use.

Table 5
Means for the Students' Perceptions according to Frequency of Use

| *Frequency of Use* | | *N* | $\overline{X}$ | *Sd.* |
|---|---|---|---|---|
| Students' Perceptions toward Vitamin's Usefulness | Never | 408 | 76,74 | 15,20 |
| | Once a month | 91 | 81,15 | 14,28 |
| | Once a week | 106 | 79,91 | 13,13 |
| | More | 83 | 82,32 | 13,24 |
| | Total | 688 | 78,49 | 14,69 |
| Students' Perceptions towards Vitamin's Adverse Effects | Never | 408 | 58,83 | 15,51 |
| | Once a month | 91 | 56,19 | 16,13 |
| | Once a week | 106 | 58,73 | 16,05 |
| | More | 83 | 57,61 | 18,36 |
| | Total | 688 | 58,32 | 16,03 |

As it is clear from Table 5, there are differences between the students' mean perception scores both towards the positive and negative effects of Vitamin in terms of their frequency of use. Table 6 presents the results of the variance analysis performed to determine whether these differences are significant.

Table 6
Differentiation between Students' Perceptions in terms of Frequency of Use

| | | *Sum of Squares* | *df* | *Mean Square* | *F* | *Sig.* | *LSD* |
|---|---|---|---|---|---|---|---|
| Vitamin's Usefulness | Between Groups | 3321,947 | 3 | 1107,316 | 5,228 | ,001 | Among the others who never use it |
| | Within Groups | 144872,074 | 684 | 211,801 | | | |
| | Total | 148194,021 | 687 | | | | |
| Vitamin's Adverse Effects | Between Groups | 578,798 | 3 | 192,933 | ,750 | ,523 | - |
| | Within Groups | 176037,723 | 684 | 257,365 | | | |
| | Total | 176616,521 | 687 | | | | |

As seen in Table 6, the students' frequency of Vitamin use results in a significant difference upon their positive perceptions towards Vitamin ($F_{(3-684)}$=5.228; $p<0.05$), while it does not lead to any significant difference on their negative perceptions.

This significant difference in the students' perceptions towards Vitamin's positive effects as revealed by their frequency of Vitamin use is between the students who never use it and the remaining groups.

Those who never use it have a mean score of $\overline{X}$ =76.74, while those who use it once a month have a mean score of $\overline{X}$ =81.15, those using it once a week have a mean score of $\overline{X}$ =79.91, and those who use it more than once a week have a mean score of $\overline{X}$ =82.32. So it suggests that the students have higher positive perception levels towards Vitamin with increasing frequency of use, and the perception levels of those who never use Vitamin are quite lower when compared to the others.

**Differences in Students' Perceptions according to their Grade Levels**

Table 7 summarizes the results about the students' perceptions towards Vitamin according to their grade levels.

Table 7
Students' Perceptions according to their Grade Levels

| *Grade Levels* | | *N* | $\overline{X}$ | *Sd.* |
|---|---|---|---|---|
| Students' Perceptions toward Vitamin's Usefulness | 4 | 203 | 79,51 | 14,38 |
| | 5 | 104 | 81,23 | 12,33 |
| | 6 | 133 | 81,36 | 12,55 |
| | 7 | 108 | 72,63 | 14,06 |
| | 8 | 140 | 76,74 | 17,51 |
| | *Total* | *688* | *78,49* | *14,69* |
| Students' Perceptions towards Vitamin's Adverse Effects | 4 | 203 | 56,45 | 15,78 |
| | 5 | 104 | 57,37 | 15,63 |
| | 6 | 133 | 55,85 | 16,01 |
| | 7 | 108 | 60,82 | 14,30 |
| | 8 | 140 | 62,14 | 17,21 |
| | *Total* | *688* | *58,32* | *16,03* |

An examination of the results in Table 7 according to their grade levels reveals that there are differences between the students' mean perception scores both about Vitamin's positive and negative effects. Table 8 presents the results of the variance analysis performed to determine whether these differences are significant.

Table 8
Differences between Students' Perceptions according to their Grade Levels

| | | *Sum of Squares* | *df* | *Mean Square* | *F* | *Sig.* | *LSD* |
|---|---|---|---|---|---|---|---|
| Vitamin's Usefulness | Between Groups | 6220,690 | 4 | 1555,173 | 7,482 | ,000 | Between the 7th class and other classes; Between the 8th class and 5,6,7th classes |
| | Within Groups | 141973,331 | 683 | 207,867 | | | |
| | Total | 148194,021 | 687 | | | | |
| Vitamin's Adverse Effects | Between Groups | 4330,827 | 4 | 1082,707 | 4,292 | ,002 | Between the 7th class and 4, 6th classes; Between the 8th class and 4, |
| | Within Groups | 172285,694 | 683 | 252,248 | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Total | 176616,521 | 687 | | | | 5, 6th classes |

As is clear from Table 8, students' grade levels lead to a significant difference in students' positive ($F_{(4-683)}$=7.482; p<0.05) and negative ($F_{(4-683)}$=4.292; p<0.05) perceptions towards Vitamin.

This significant difference caused by grade levels on the students' perceptions towards Vitamin's positive effects is between the 7th-grade students and those in other grades, and between the 8th-graders and the 5th-6th-7th-graders. The mean score for 7th-graders is $\overline{X}$ =72.63 and for 8th-graders $\overline{X}$ =76.74, while the 4th-graders' mean score is $\overline{X}$ =79.51, the 5th-graders' mean score is $\overline{X}$ =81.23, and the 6th-graders' mean score is $\overline{X}$ =81.36.

This suggests that the level of positive perceptions towards Vitamin is lower with increasing grade levels.

The significant difference caused by grade levels in the students' perceptions towards Vitamin's adverse effects is between 7th-graders and 4th-6th-graders, and between 8th-graders and 4th-5th-6th-graders. The mean score is $\overline{X}$ =60.82 for 7th-graders and $\overline{X}$ =62.14 for 8th-graders, while it is $\overline{X}$ =56.45 for 4th-graders, $\overline{X}$ =57.37 for 5th-graders and $\overline{X}$ =55.85 for 6th-graders. As this result suggests, the higher the grade levels, the higher the level of negative perceptions towards Vitamin.

## CONCLUSIONS

- Most students find Vitamin useful. This might have been the result of the students' high attitudes towards information technologies. As a matter of fact, the literature contains numerous studies demonstrating that students have positive views towards information technologies and perceive them as sources of information (Kose, Gezer, 2006; Yolan, Kozak, 2008).

  A study by Yancinalp and Askar (2008) reports that students prefer computer and internet environments to books, a preference partially caused by the perception that following and learning textbook materials is difficult. The main factors for students' preference for computers include computers' characteristics such as its practicality, usefulness, high capacity and the fact that it creates time for them and control over subjects. On the other hand, it is reported that students' perception of the internet as an interesting, up-to-date and wide information source plays a significant role in their preference for the internet.

  As reported in a study on computer-assisted education, the students prefer a method through which they can study on themselves and refer to their teachers for help only when necessary to a method in which the teacher, as the authority in the classroom, teaches the subject (Akcay, Tuysuz and Fevzioglu, 2003). Nevertheless, parents' contribution might also be effective in students' positive perceptions towards these technologies.

  A study by Aksut et al. (2008) notes that parents do not present a preventive attitude with regard to elementary-level children's internet use; rather, they support the use of information technology in their children's education.

- Besides their positive views about Vitamin, the students also think that Vitamin may have adverse effects upon themselves. This could be attributed to the ideas that Vitamin does not cover certain lessons, fails to provide a concrete learning environment, communication with parents is weakened during Vitamin use, success depends on individual efforts, and by their disbelief in Vitamin's benefits.

On the other hand, this may have also been the result of the students' suspicions about the reliability of the information on the internet. A study conducted by Yalcinalp and Askar (2003) reports that students do not want to abandon researching on the internet, but feels suspicious about the accuracy of the information obtained from the internet.

- A great majority of the students do not use Vitamin. This could be attributed to factors such as the insufficient promotion of Vitamin, inadequate use of Vitamin by teachers during classes, their lack of encouragement for students to use Vitamin, and lack of such technologies at students' homes. The more frequent students use Vitamin, the more positive their perceptions towards Vitamin are.

  Moreover, the levels of positive perceptions among the students who never use it are lower when compared to others. The literature contains study results demonstrating that students' attitudes towards computer and internet technologies are higher with their increasing use of computers and the internet (Celik and Bindak, 2005; Birgin, Kutluca and Catlioglu, 2008).

  A study by Isman and Gurgun (2010) similarly notes that there are differences in students' attitudes towards computers and the internet depending on variables such as computer ownership, internet connection ownership and frequency of internet use, and that they have higher attitudes in parallel with the frequency of use.

- Students' levels of positive views about Vitamin are lower and their levels of negative views are higher as their grade levels increase. The students at higher grades experience more anxiety over examinations and dedicate themselves to continuously solving questions, while Vitamin aims to teach course subjects, which may also result in higher levels of negative perceptions towards Vitamin among students. In fact, a study investigating students' attitudes towards information technologies report that in general, students at lower grade levels have more positive attitudes towards information technologies when compared to those at higher grade levels (Isman and Gurgun, 2010).

## SUGGESTIONS

It could be suggested to improve the content of Vitamin education support service by adding the other subjects included in the curricula along with the basic subjects, and to note teacher opinions in improvement efforts. In addition, efforts can be made for teachers to be able to add to the system the learning objects they themselves prepare such as activities, work sheets, exercises and evaluation questions, and animations, so that the content can be improved faster and made more real. Furthermore, technical and economic arrangement can be made for students to easily access to Vitamin in their homes. Organization of the instruments including examples, experiments, activities and questions presented in textbooks in parallel with Vitamin; taking care to use the system during lessons in classrooms as much as possible; and using information technology classrooms for this purpose may help Vitamin be used more effectively and widely. On the other hand, research should be made into the suitability of Vitamin content in terms of education, design and technical purposes, and its contribution to academic achievement.

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# EFFECTS OF MULTIMEDIA GLOSSES ON L2 VOCABULARY LEARNING

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## ABSTRACT

The present study investigates the effects that different types of multimedia glosses have on second language vocabulary learning. Sixty elementary level learners of English were randomly assigned to three types of annotations:

- with only textual annotations available,
- with only pictorial annotations available, and
- with both textual and pictorial annotations available.

Subjects were asked to read four annotated texts with the intention of comprehension. Acquisition was measured by means of two types of tests: word recognition test and picture recognition test. Results showed that the groups that had access to both textual and pictorial annotations significantly outperformed the other two groups in both tests. The results also indicated that the pictorial group obtained significantly higher mean score in comparison to textual group.

**Keywords:** Multimedia glosses, vocabulary, second language learning.

## INTRODUCTION

One aspect of second language teaching via multimedia to have received attention over the past few years is the impact of glossing individual vocabulary words through different modalities. Since in a multimedia environment it is possible to provide a variety of annotations in the form of text, audio, picture, video, and sound, it has become crucial to investigate whether multimodal glosses or annotations are effective in facilitating vocabulary learning. Thus, the present study explores the effects of multimedia annotations, particularly textual, pictorial, and textual pictorial glosses on vocabulary learning while reading a L2 passage.

### Multimedia and Learning

It is suggested that multimedia can have a positive impact on L2 learning and teaching due to its integration of different media (Kramsch & Andersen 1999; Shea 1996). The theoretical foundations for learning in multimedia environments have been developed within Dual Coding Theory (Paivio, 1986) and Cognitive Load Theory (Chandler & Sweller, 1991; Sweller, 1994; Sweller et.al., 1998). Mayer (1997) integrates these two theories and proposes the Generative Theory of Multimedia Learning. Paivio's Dual-Coding Theory (1986) states that learning improves when the information is received through two channels (verbal and visual) to construct meaning.

On the other hand, Cognitive Load Theory suggests that the processing capacities of visual and verbal working memories are severely limited unlike the long-term memory. Presenting too many elements to be processed in visual or verbal working memory can lead to cognitive overload. Thus, several messages of instruction should be coded as a single element in ways that will minimize the chances of overloading learners' cognitive system (Chandler& Sweller 1991). Mayer (1997) builds up his Generative Theory of multimedia learning integrating these theories and provides a framework for instructional presentations. He argues that meaningful learning requires the selection of relevant words and images from the presented input to be stored either in

auditory/verbal or the visual/pictorial channel depending on the type of the input. Learners, then, organize this information into a coherent piece of verbal representation and visual representation separately. Finally, they integrate verbal and visual representations into an already existing mental representation (i.e., schemata).

## IMPACT OF MULTIMEDIA GLOSSES ON L2 VOCABULARY LEARNING

There are a considerable number of studies that investigated the effectiveness of multimedia glosses on L2 vocabulary acquisition. Chun & Plass (1996), for instance, investigated the effect of multimedia glosses on vocabulary acquisition. The participants, 160 university students who were learning German as a second language, read a 762-word text on the computer and took a vocabulary test and a recall test. The research employed a within-subjects design and all the participants read the text using the same reading program with some words glossed with text-only, some with text and pictorial cues, and some with text and video clips. The study indicated that the combination of text and picture glosses was more effective than text-only or text-plus-video glosses.

Al-Seghayer (2001) investigated what type of multimedia gloss, dynamic video or still picture, was more effective in aiding vocabulary acquisition. Results of the analyses carried out indicated that learners presented with text -plus- video had scores that were significantly higher than the text -plus- picture condition. In addition, results also showed that the text only condition was significantly more effective than the text -plus-video condition. Yoshii and Flaitz (2002) investigated vocabulary learning using text and picture glosses with 151 beginning and intermediate ESL adult learners. Students read a story with 14 glossed words presented in three conditions: condition 1 (text definition only); condition 2 (picture only); condition 3 (text definition-plus-picture). Results showed that students in condition 3 (text-plus-picture) understood more vocabulary than students in the text or picture only conditions.

Yeh and Wang (2003) investigated the effect of three gloss types on vocabulary learning with 82 ESL learners at a Taiwanese university. Students were in one of three conditions: condition 1 (text translation-plus-definition) Chinese translation and English explanations; condition 2 (translation-plus-definition-plus-pictures); condition (translation-plus-definition -plus-picture-plus-audio). Results found that gloss condition 2 (text translation-plus-definition -plus- picture) was most effective for vocabulary acquisition.

Yoshii (2006) compared the effectiveness of L1 and L2 glosses on the incidental vocabulary learning of 195 Japanese university students. There were four groups in the study, L1 text only, L2-text-only, L1-text-plus-picture, and L2-text-plus-picture. The research instruments were immediate and delayed definition-supply and word recognition tests. However, the results indicated that there were no significant differences between the two language gloss types. Significant differences were found between picture (text-plus-picture) and no-picture (text-only) glosses for definition-supply test. Delayed tests, on the other hand, showed that the L1 text-only group outperformed the L2 text-only and L2 text plus picture groups in recalling the target words. A more recent study in the field has been carried out by Yanguas (2009) following the theoretical framework of attention (Robinson, 1995). Applying four treatments, namely textual, pictorial, textual plus pictorial, and a control condition for comparison, with 94 students of fourth semester college-level Spanish, he used think-aloud technique, reading comprehension, recognition, and production measures to investigate the effects of different types of multimedia glosses when the goal was comprehension of a computerized text. The results indicated that first of all, all the multimedia groups outperformed the control group on noticing and recognition measures. Secondly, there was no significant difference in the performance of the groups on the production measures. Finally, the combination group outperformed all other groups on the comprehension measures. The results of this study suggest that a combination condition is ideal for text comprehension.

Overall, the previously discussed studies have shown that multimedia glosses are effective in promoting vocabulary acquisition in language learning. Consequently, this study, in line with the theoretical framework of

Generative Theory of Multimedia Learning (Mayer, 1997, 2001), attempts to shed light on the effectiveness of textual, pictorial, and textual pictorial glosses in the vocabulary learning of elementary learners of English. The present study, hence, attempts to address the question:

What are the effects of different types of multimedia glosses, namely textual, pictorial, and textual-pictorial, on L2 vocabulary learning?

## EXPERIMENTAL DESIGN

### Participants

The study was conducted in a foreign language education department at an Iran university. Sixty freshman students (60 females) participated in the study. These learners can be considered as elementary learners of English according to scores on an Oxford placement test. They ranged in age from 18 to 20. They all possessed basic computer skills such as conducting web searches, using e-mail, Microsoft Word, Microsoft Excel, and Microsoft PowerPoint.

### Computerized Reading Text

The reading passages used in this study were selected from the book Communicative Reading Skills (CRS) that has been gathered for students of elementary learners (Root & Blanchard, 2004). Macromedia Flash MX 2004 was used to design the texts, which was then uploaded online so that participants could access it.

### Piloting of the Experimental Text

Twenty randomly selected participants underlined all the unknown words in the text. Only words underlined by more than half of the participants were selected to be glossed.

### Glossing

As a result of the pilot test 20 words were glossed. In the experimental conditions, the words were hyperlinked. When the participants clicked on them a box appeared above the word with a definition. The textual definitions were extracted from Oxford Learner's Dictionary (1991) and the pictorial definitions were extracted from the Internet in English (textual gloss group), a picture (pictorial gloss group), or a combination (textual-pictorial gloss group).

## TESTING INSTRUMENTS

### English Language Placement Test

In order to guarantee the close homogeneity of the groups, the Oxford Placement Test was administered to the participants. The test, which is a commercially developed package, is claimed to grade and place students reliably into appropriate levels. The results are interpreted by referring to the test manual. By reference to a 12-column table of level specifications, students can be assigned to levels within the OPT Band, OPT Score, OPT Language Level, Common European Framework Level, ALTE & QPT, UK NQF level, IELTS, Cambridge ESOL Main Suite, Cambridge BEC, Cambridge CELS, TOEFL, and TOEIC

### Self- report Vocabulary Pre-test

The participants took a pre-test prior to the treatment. The test was designed in the form of student self-report, i.e. students were asked to indicate whether they knew the word they would read in the treatment texts. The participants were instructed to put a check mark by any words they knew and provide a short written explanation or synonym in English or Farsi.

### Post-tests

The participants received two types of tests after the treatment: word recognition test and picture recognition test.

### Word Recognition Test

The word recognition test included 20 target words with four multiple-choice answers for each item. The participants were asked to select the most appropriate definition of a given word from four choices. The definitions were phrased differently from those used in reading passages, although they conveyed the same meaning. The participants received one point for each correct answer, which amounted to 20 maximum points in total for the test.

### Picture Recognition Test

The picture recognition test consisted of 15 items. The participants were asked to choose a related picture for each target word.

The pictures were also different from the ones used in the study even though they conveyed the same meaning. Such a safeguard was taken to avoid the participants' memorizing the definitions as well as pictures encountered in the course of reading. The participants received one point for each correct answer and a zero for incorrect answer.

### Procedure

One week before the study, an Oxford Placement Test was administered to the volunteers. Once the researcher made certain that the participants formed a homogenous sample, a pre-test examining the knowledge of the target words was administered. The participants were presented with a list of 24 words and were instructed to put a check mark by each word they knew and write down a short definition or synonym in English.

Subsequently, the words, which were defined correctly by the participants, were discarded from the initial pool of target words, resulting in the elimination of four words. When the final participants as well as the target words were identified, the participants were randomly divided into three groups using three different gloss types: the first group read a text with text-only glosses; the second group read it with pictorial cues in the glosses; and the third group used both text and pictorial cues in the glosses.

Each group consisted of 20 subjects. Before the reading session, the researchers gave a brief oral introduction to the class about the reading activity and the availability of glosses. The participants worked on this reading activity individually on their own computer.

When the reading task finished, the participants were redirected to the test page where they were presented with the two main testing instruments, word and picture recognition tests, and, as a safety measure, two reading comprehension items to avoid the participants' guessing the main concern of the research.

Although the test items were displayed on the screen, the participants were to answer the questions on the answer sheets which were distributed towards the end of the reading task. The students were not allowed to look at the text while they worked on the vocabulary tests.

## RESULTS

The data were analyzed using the one-way ANOVA statistical analysis as performed in the environment of the software SPSS 15.0 for Windows. For all the analyses, the alpha level was set at .05.

### Word Recognition Test (WRT)

Group means and standard deviations for the three participating groups on WPT appear in Table 1.

Table 1
Results of Descriptive Statistics for WRT

| | Mean | Std. Deviation | Std. Error |
|---|---|---|---|
| Experimental group 1 (textual) | 15.40 | 2.01 | .44 |
| Experimental group 2 (pictorial) | 16.70 | 2.07 | .46 |
| Experimental group 3 (textual-pictorial) | 18.00 | 1.86 | .41 |

As the above table shows, the combination group obtained higher mean score ($\bar{X}$=18) in comparison with both the textual group ($\bar{X}$=15.40) and the pictorial group ($\bar{X}$=16.40). Also, the results indicated the pictorial group's mean ($\bar{X}$=16.70) was higher than that of textual group ($\bar{X}$=15.40). Figure 1 displays means for three participating groups on WRT.

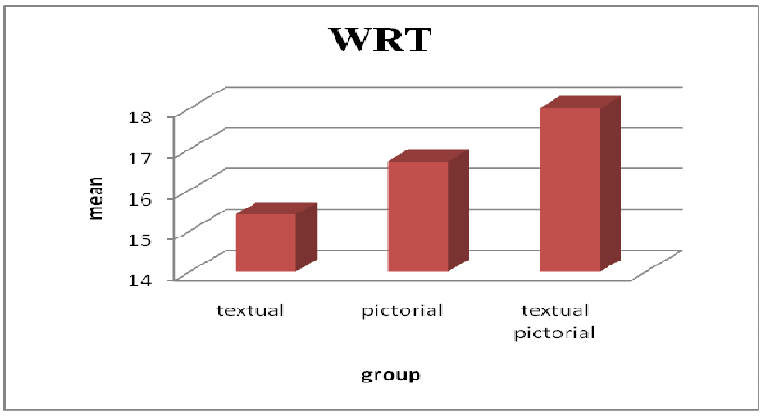


Figure 1
Group means for the WRT

In order to further investigate whether the differences among the means were statistically significant, a one-way ANOVA analysis was performed on the data. The results indicated that significant differences existed in the performance of the groups, $F(2, 57)=8.563$, $p=.001$. A post-hoc comparison results indicated that the combination group differed significantly from the pictorial and the textual groups, and the pictorial group significantly differed from textual group.

**Word Recognition Test (PRT)**

The descriptive statistics of PRT, including group means and standard deviations, for each group appear in Table 2.

Table 2
Results of Descriptive Statistics for PRT

| | Mean | Std. Deviation | Std. Error |
|---|---|---|---|
| Experimental group 1 (textual) | 10.00 | 1.65 | .36 |
| Experimental group 2 (pictorial) | 12.60 | 1.35 | .30 |
| Experimental group 3 (textual-pictorial) | 13.70 | .97 | .21 |

As the above table shows, three groups' performance on PRT is different. The results indicated that the combination group who received both text and pictorial cues in the glosses obtained higher mean score ($\overline{X}$=13.70) in comparison to pictorial and textual groups ($\overline{X}$=12.60 and $\overline{X}$=10, respectively). Also, pictorial group's mean ($\overline{X}$=12.60) was higher than that of textual group ($\overline{X}$=10). Figure 2 displays means for three participating groups on WPT.

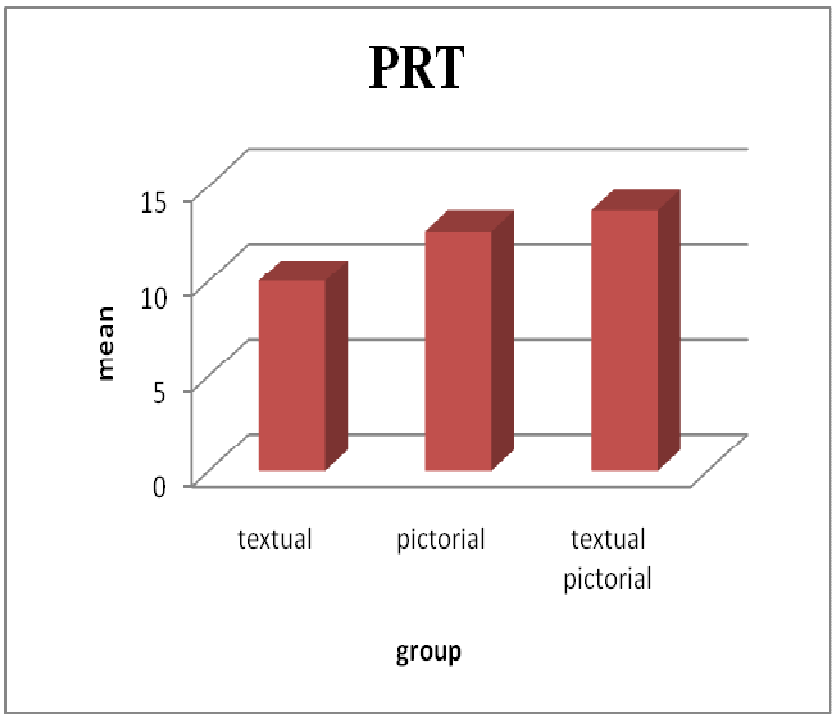


Figure 2
Group means for the PRT

The result of one way ANOVA revealed that the difference between groups was significant in WRT. Technically speaking F (2,57)=39.194, *p*=.000 proved to be significant at the .05 level. A post-hoc comparison results showed that the combination group differed significantly from the pictorial and the textual groups, and the pictorial group significantly differed from textual group.

## DISCUSSION

Findings of the study confirmed the findings of the other studies that have found a combination of textual and pictorial glosses was more beneficial in facilitating the learning of second language vocabulary than providing only textual or pictorial glosses for learners (Al-Seghayer, 2001; Chun & Plass, 1996; Yeh & Wang, 2003; Yoshii & Flaitz, 2002; Yanguas, 2009). These findings are in line with the Generative Theory of Multimedia Learning, particularly with the dual channels assumption, which suggests that it is better to present an explanation in words and visuals than solely in words.

According to this theory, the students who selected from words annotated in both pictorial and written modes were able to build more referential connections between the verbal (written) and visual (pictorial) mental

representations of the vocabulary words and were therefore able to recall more of the vocabulary in a follow-up vocabulary post-test than the students in the other two groups.

The findings of the study also indicated the pictorial group obtained significantly higher mean scores in comparison to textual group in both vocabulary tests, namely picture recognition test and word recognition test.

The findings seems logical in picture recognition test because the pictorial group was exposed to pictorial glosses, even though the pictures in the test were different from those the students observed in the glosses attached to the target words. Though it was expected that the textual group would, in turn, outperform the pictorial group on the word recognition test, the reverse turned out to be the case and the pictorial group still outperformed the textual group. It is worth mentioning that L2 vocabulary learning is, by comparison, more effective with the use of pictures.

Regarding the variability of scores, it was determined that the combination group had an advantage over the other two groups on both word and picture recognition tests. This is further evidence to support the idea that pictures help foster vocabulary learning.

On the whole, the two instruments indicated that the combination of the two glossing techniques, namely textual and pictorial, was most influential in helping the participants with learning L2 vocabulary.

## LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

This study poses several limitations; thus, the findings should be considered with caution. First, the target population of the study consisted of elementary level language learners of English. This study should be replicated in other learning contexts with students from different proficiency levels to generalize findings to a larger target population and to different learning environments. Second, the use of a pre-test further affected the generalizability of the results. In other words, the results cannot be generalized to people who are not pretested.

Third, this study was conducted with a small sample size and short duration of the experiment. Future studies are needed to replicate this study with larger sample size sand longer periods of time. Fourth, this study also controlled for gender. A similar study could investigate the effect of the three annotation types on vocabulary learning of male students. Finally, this study investigated the immediate vocabulary gains of participants. There is a need to further assess the delayed retention of target words after a one/two-week period.

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# AN INVESTIGATION INTO STUDENTS' ATTITUDE TOWARDS ADULT EDUCATION PROGRAMMES: The Case of Ghana

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## ABSTRACT

The purpose of this was to examine students' attitude toward adult education programmes in Ghana as well as the challenges facing adult education students. The study employed a mixed method approach using a semi-structured questionnaire and interviews as means of data collection.

The study revealed that, the participants were aware of the importance adult education programmes for both individual and national development and this was reflected in their attitudes towards such programmes. Despite these positive attitudes, the participants could not hide their grievances regarding high cost for the programme as well as the huge travel cost and time. The results strongly support the need for the government and adult education authorities to be more pro-active in providing adult education programmes, financial support and scholarship for students to motivate more people to enroll in such programmes for national development.

**Keywords:** Attitudes, adult education, development.

## INTRODUCTION

The greatest treasure and asset of a nation are its educational institutions. They make or mar the destiny of a nation. The strength of a nation is built on human resources developed by its educational institutions which train the brains, provide skills and open a new world of opportunities and possibilities to the nation (Ullah Khan, 2005). Educations is considered as one of the most important tools for national development and in view of this governments are increasingly concerned with raising levels of human capital, chiefly through education and training, which is seen as more critical in fuelling economic growth and knowledge creation (OECD, 2007). "The potential for individuals and countries to benefit from this emerging knowledge economy depends largely on their education, skills, talents and abilities, that is, their human capital" (OECD, 2007:1)

According to Fagerlind and Saha (1989) investments in education have traditionally been justified by optimistic assumption that educated population contributes to the socio-economic development of the society as a whole. Mwakawago (1971) have also argued that, the individual's ability to attend adult education programme does not only lead to improvement in the individual adult's professional skills and knowledge base but will rather go a long way to improve the well-being of his/her family and the nation as a whole.

According to Appleton (2001), the relationship between education and development can be understood when we measure the returns that individuals and the nation as a whole derive from education. He found out that high living standards and poverty reduction is influenced by education. That is to say when people are educated they turn to enjoy a high standard of living and vice versa.

Schulter (1963) supported this idea and stated that:

*The economic value of education and training rests on the proposition that people enhance their capabilities as producers and consumers by investing in themselves and that school and training are the largest investment in human capital…. there are long standing puzzles about economic growth, changes in the structure of wages and salaries, and changes in personal distribution of income that can be substantially resolved by taking account of investment in human capital (pp. 10-11).*

In addition to this, McCann (1998) further argued that, it has now become necessary for countries to adopt strategies in helping its citizenry to develop their potential skills so as to be able to fit into the ever changing world coupled with competition. In arguing his case for the need for human resource development, McCann (1998) argued that, in recent years, we have been witnessing the early turbulent days of a revolution as significant as any other in human society, and knowledge has become the key asset as opposed to land labor and capital the asset of industrial age.

Despite the significant importance of adult education and education in general for national development, financial constraints continue to occupy one of the top positions on the list of challenges facing adult education programmes (Filla, 1996). According to Filla (1996) for people with low income levels, the financial part of the programme is most significant when considering taking up adult education programmes. Cross (1981), also identified dispositional barriers such as attitudes and perception toward the program as another factor affecting adult education programs.

However, Tuijiman and Boudard (2001) have also argued that, when people believe that the learning activity would benefit them the turn to have a positive attitude towards it and vice versa.

## METHOLOGY

### Statement of the Problem

Though the government of Ghana have put in place adequate measure to ensure that those who did not had the chance of going through normal education system will do so through the adult education programmes which has been initiated throughout the country.

These programmes are meant for improving the well-being of the people but adult illiteracy still remains a problem in Ghana especially in the rural communities (UNESCO, 2007). Though report from (UNESCO, 2007) shows that the adult literacy rate stood at 58% in 2007, which is an improvement on the 1989 figure of 40%, however, very little is known about the kind of attitudes that adult education students have towards the programme.

Similarly Smith (2001) argued that, despite the importance of such programmes, there is the need to also look at the kind of attitudes that students' have toward such programmes. The present study is therefore designed to answer the following questions:

- What are adult education students' attitudes toward adult education programs in Ghana?
- What are the reasons why people participate in adult education programs?
- What are students' views of the impact of adult education programmes on national development?
- Significance of the Study

The present study is significant in the following ways: Up to date no study has specifically answered the research questions raised in this present study especially in the Ghanaian context. Also the findings of the

study will provide useful information for educational planners, policy makers and administrators especially the Ministry of Education (MoE) who wish to identify areas where additional support and materials are needed to improve the quality of education with much emphasis on adult education programmes for national development. In addition to this, this study will be very useful to the individual citizenry who aims at finding an alternative means of developing their skills without necessarily enrolling in the normal education system. It will also bring to light some of the strategies of improving adult education programmes and also make them attractive and similar to the normal school system.

## Research Design

The present study can be described as a employed a mixed method case study as it employed both quantitative and qualitative data collection and analysis methods in answering the research questions raised (Creswell 2003). Similar to the ideas of Creswell (2003), the rationale for a mixed method design in study was to improve the validity and reliability of the study so that people will trust the results. The strategy used in the data collection and analysis was a case study approach. Case study represents a systematic inquiry into a single case to shed light on a phenomena by studying in-depth to understand the complex relationship that exist among the participants (Depoy and Gitlin, 1998; Bryman, 2004).

## Population and Sampling Procedure

The target population for this study was all adult education programme students in Ghana. The sampling procedure for this study was in three stages. Firstly, two adult education centres was selected randomly from a list of adult education centres in Ghana. At the second stage a sample of thirty students of adult education programmes that is fifteen from each of the selected centres was selected through the use of the snow ball sampling technique. This is a type of non-probability sampling technique where by the researcher makes initial contact with a small group of people who are relevant to the study and use these people to reach other peoples (Bryman, 2004). At the third stage five adult education students were purposefully selected for in-depth interviews.

## Instruments

Based on the objectives of the study two main instruments were employed in data collection process. Firstly, a semi-structured questionnaire was administered to the selected adult education students to understand their attitudes towards adult education programs and their opinions about the role of adult education programmes in national development. The questionnaire had 20 items. The first six items was used to elicit the participants' background information. The next four questions asked the participants the about the types programmes that they are enrolled as well as motivation and the challenges the face. The last 10 questions were used to elicit information about the participants' attitude toward adult education programmes. The study instrument was validated using a pilot study of some selected adult education students and friends who were interviewed to know whether they have similar understanding of the questions in the questionnaire. Results of the pilot study were used to modify the questionnaire after which content, construct as well as face validity of the questionnaire was made. The questionnaire was then administered to the selected students to know the views on the role of adult education in national development, their attitude towards adult education programmes and some of the factors affecting adult education in Ghana.

To complement the quantitative data from the questionnaire, a semi-structured interview was administered to the five selected students to gather more in-depth information. For the purpose of consistency and uniformity, the researcher used an interview protocol with 10 questions, and since most of the questions in the questionnaire were structured, most of the questions for the interview protocol were drawn from the questionnaire.

## Data Analysis

All the copies of the questionnaires were examined to check accuracy and completeness. The schedules was numbered serially, edited, coded and fed into the computer. The data obtained was analyzed using the statistical package for social sciences (SPSS). Descriptive statistics were depicted using absolute numbers, simple percentage and cross tab. The interview conducted was transcribed to come out with common ideas after which it will be analyzed using interpretive analysis procedure.

## RESULTS

### Background Data of Participants

The results from the study showed that of the thirty students who took part in the study, 20 (66.7%) of the participants are between the age range 35-60years while 10 (33.3%) of them were between the age of 20 – 34 years. Though the results show that more adults are taking part in this kind of adult education programme as compared to their colleagues' young people, however, it can be argued that, the days when adult education was seen as education for the elderly is fading out. The participants of the study were taking different diploma courses from in business studies, basic education and management studies. The results from the study shows that majority of the students who took part in the study do have some secondary education. 21 (70%) of the respondents had secondary education while 9 (30%) have some diploma in a different field of study and they are interested in taking other diploma program in a different field.

In all approximately 15 (50%) of the respondents were trained teachers who hold a teacher's certificate and wants to upgrade their qualification as well as acquiring more knowledge.

Contrary to the policy document of using the adult education programmes to help those who were not able to go through the 'normal' school system to acquire knowledge, the results shows that majority of the participants have had some level of formal education and were participating in these programmes to acquire some new knowledge and also upgrade themselves.

This calls for the need to have a second look at the policy document for a possible change of name of such programmes to reflect actual situation on the ground since most of the programmes were diploma and degree programmes, with few certificate programmes but the policy document consider such programmes as helping people to gain some basic literacy knowledge and skills.

### Students' Attitude toward Adult Education Programmes

The kind of attitudes and perception that students have toward a programme plays a very crucial role in assessing or evaluating the impact of the program and the effectiveness of the program (Smith 2001). As a way of eliciting information to answer research question one students were asked to rate their attitude to ten items. The first five items looked at the importance of adult education to individual development and the last five looks at the importance of adult education to national development. The table 1 below shows the responses from students.

Table 1
Students' Attitude toward Adult Education Programmes

| Statement | No.& Percentage of favorable Attitude | No.& Percentage of unfavorable Attitude |
|---|---|---|
| It is waste of time to attend adult education programmes | 0 (0%) | 30 (100%) |
| Adult education should be organized for all people who want to upgrade themselves or gain new knowledge. | 28 (93.3%) | 2 (6.7%) |
| Adult education programmes are meant for those in the urban communities who want to take white color jobs. | 2 (6.7%) | 28 (93.3%) |
| All people both young and old should be encouraged to take advantage of the numerous adult education programmes in the country to develop them selves | 21 (70%) | 9 (30%) |
| No matter where stationed people Should take advantage of adult education programme to upgrade their knowledge | 25 (83.3%) | 5 (17.7%) |
| Adult education programme is an important tool for national development | 30 (100%) | 0 (0%) |
| The best way to improve the quality a nation's human resource is through education. | 26 (86.7%) | 4 (13.3%) |
| Adult education can be used to reduce the high incidence of unemployment and social exclusion. | 20 (66.7%) | 10 (33.3%) |
| Adult education should be used as an alternative way of developing the quality of a country's human resources rather than concentrating only on the normal school system. | 20 (66.7%) | 10 (33.3%) |
| Adult education programmes should be included in the school curriculum | 18 (60%) | 12 (40%) |

As a means of measuring the kind of attitude that adult education students have toward adult education programmes, students were asked to rate their levels of agreement to ten questions (items) by stating either SD= Strongly Disagree, D= Disagree, A=Agree or SA=Strongly Agree. In analyzing the data from the students' questionnaire the responses were categorized into two that is favorable attitude (agree and strongly agree) and unfavorable attitude (disagree and strongly disagree).

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An encouraging finding from this study was that an over whelming majority of the respondents expressed positive attitudes toward adult education programs and that most of the students do acknowledge the importance of adult education programmes for the individual development as well as the total development of the nation as a whole.

Table 1 show that all the respondents were in disagreement that adult education is a waste of time. In addition to this approximately 93.3% of the respondents indicated that adult education should be organized for all people who want to upgrade themselves and also 93.3% of the respondents indicated that adult education are not meant for brilliant people.

This means majority of students were aware of the fact that adult education is very important for individual development and acquisition of new knowledge.

In addition to this, majority of the respondents did acknowledged the importance of adult education for national development and similar to the ideas of Cross (1981), Tuijiman and Boudard (2001) it was clear that among the respondents the decision to take an adult education program was based on their believe that, the learning activity would benefit them directly or indirectly.

Also Schulter (1963), Mwakawago (1971) Appleton (2001) and OCED (2007) indicated that the relationship between education and development can be understood when we measure the returns that individuals and the nation as a whole derive from education. The positive attitudes towards adult education programmes among the respondents support this assertion that education can lead to individual and national development which will go a long way to empower the people to be self-reliant and productive.

Though it was clear from the above discussion that majority of the respondents do have a positive attitude toward adult education programme but they did not hide their concerns when they were asked to indicate some of the challenges that they face in taking part in adult education programme.

Among other things, the respondents cited high cost of the programmes, lack of job opportunities for adult education graduates and the relevance of such programmes as some of the challenges facing them.

## Reasons for attending adult education programmes

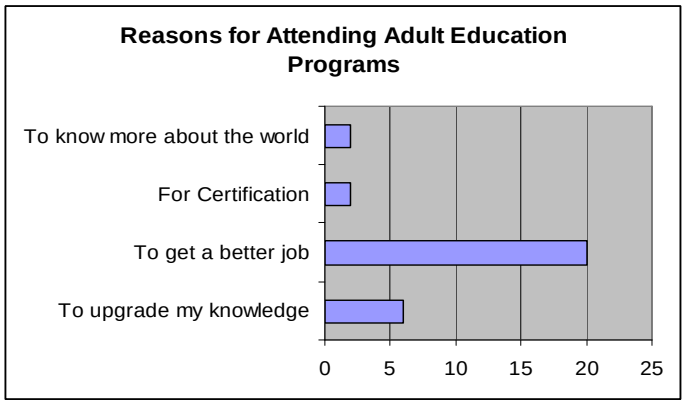


Figure 1
Reasons for Attending Adult Education Programs

Students ability to participate in adult education programmes is as important as organizing the program itself. Students' participation in any programme including adult education programme is affected negatively or positively by many factors. From the figure above, it can be seen that 20 (66.7%) of the respondents were of the view that they are attending the adult education programme so as to get a better job. 6 (20%) indicated that they were motivated to attend the programme because they want to upgrade their knowledge. Only 2 (6.7%) of the respondents indicated that they are attending the programme for certification and to know more about the world. As indicated by Tuijiman and Boudard (2001) the key decision in taken any course and for that matter adult education course or programme relies mostly on the kind of benefit that the individual believe can bring to him or her.

People having realized the importance of education in getting or finding a better job majority of the respondents (67%) indicated that they are doing the programme so that they can get a better job in future.

**The role of adult education programmes in national development?**

Vivian *You know things are hard now and without qualification you will not be able to make end meet. You need to have a high qualification to get a better job to keep things moving. Hmm I just have to do my best and finish with this program so as to get a better job and a better pay.*

*You know no nation can grow without education. It is good to have an educated population who can make sound judgment and take good decision for national development. To me I think adult education is an important tool for national development and the government should invest more money in it.*

Stephen *Oh I think you know how the economy has become very hard these days. Man has to find some certificate and then go to the job market to see what he can get from there.*

*Yes, there is a direct relationship between the quality of human resources and the level of productivity. If we have more educated people then there is the likelihood that we will be having high level of productivity.*

Peter *I am a teacher and you know the pay is not good. I am trying to do this diploma in commerce program and see if I can get some bank to work. I learnt that place is better.*

*I think there is a direct relationship between education and wealth. Let look at the village and the city. If you go to the village there are no good drinking water, no good roads just to mention few just because the quality of the human resources there is too low in such a way that all these big industries do not want to establish there even though that is where most of these industries get their raw materials from.*

Joyce *Oh you mean why I enroll in this program? I have two motives for enrolling in this program, the first is to acquire more knowledge and secondly to get the certificate so that I can get a better job. I know the job market is tight but I will try and see what happens.*

*Yes it is true that education and for that matter adult education is one of the major tools for national development. Look the so called developed countries they are called so because they have high quality human resources. Education and for that matter adult education can help reduce poverty and unemployment.*

Grace *To get good a good job after my studies.*

*I do not think any nation can developed without some level of education. Our cities are developed because they have qualitative human resources which are able to cope with the current changes in the world.*

As a way of eliciting information about students views on the impact of adult education on national development, five students were interviewed. The interview was transcribed and a summary of the findings are presented above. From the interview transcription it was clear that similar to the information from the questionnaire most of the respondents were of the view that they hope to get a better job after the completion of the programme. In addition to this it was clear that the respondents do consider a direct relationship between education and national development and some were of the view that no nation can develop without quality human resources. Also it was clear that the respondents have a strong conviction that the development of most of the developed countries can be traced back to their well-developed human resources.

## DISCUSSION

The main aim of this study was to examine adult education students' attitude toward adult education programme and also examine students' view on the role of adult education in national development. The results from the study indicates that even though the majority of the respondents were between the ages of 35-50 years and above but a substantial number of the respondents were still young and this can be considered as a great asset for national development. That is to say more people are becoming interested in adult education programs as an alternative form of education.

It was interesting to note that almost all the students who took part in the study had a positive attitude toward adult education programmes and see it a one of the best means of developing themselves so as to become employed and earn a better living. Also the study revealed that despite the importance of adult education programmes, most students were faced with financial constraint. This goes to support Filla (1996) assertion that financial constraints continue to occupy the top most position on the list of challenges facing adult education programmes.

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# THE POTENTIAL AND CHALLENGES OF INTRODUCING NEW TECHNOLOGY IN DISTANCE TEACHING AND LEARNING

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**ABSTRACT**

One of the most significant recent technological developments at the Zimbabwe Open University has been the introduction of the CD-ROM digital text as the central medium of instruction. The ZOU has always used tutorials and the module as the main delivery mode. However, the advent of the global village, advancement in new technology and the socio-economic and political challenges Zimbabwe experienced in the past two years from 2008 to 2009 forced ZOU to adopt an alternative medium of instruction (CD-ROM digital text) in order to survive. However, the introduction of the CD-ROM text has become a topical issue that has raised heated debate in ZOU's departmental, faculty and senate meetings. Those supporting the use of CDs have argued that ZOU must adopt new technology in order to survive in today's computer age and in the global village. On the other hand, critics have seen the use of CD-ROM as one way of abandoning the distant and the socio-economically disadvantaged student!

This article reports the findings of a university-wide study the two authors conducted at the ZOU during the 2nd Semester (July-December 2009) in order to contribute meaningfully to the current debate on challenges ZOU and other ODL institutions are facing the introduction of new technology in their delivery mode. The present study focused on three key issues;

- students' preparedness in the use of CD –ROM in their studies,
- whether students found CDs convenient to use and
- what ZOU should do to improve effectiveness of CD-ROM in the teaching and learning process.

We collected data through a questionnaire from a stratified random sample of 100 undergraduate students 25 students from each of the following faculties; Arts and Education, Sciences, Commerce and Law and Social Sciences.

This study found that the majority of ZOU students were not ready and prepared to use the CD-ROM as only 34% of ZOU students were computer literate, 5% had personal computers, 12% had computers either at home or at their workplace. Fifty-eight percent of those students with access to computers reported inconveniences from other members of the family or workmates when using the computer for their studies. The majority of students (72%), experienced financial challenges in the use of CD-ROM due to high costs charged at inter-net cafes and for printing the module. The major implications of the present study are that:

1. Before introducing new technology, ODL institutions must conduct a survey to determine the extent to which students are ready and prepared to use the new technology effectively.
2. ODL institutions must know and understand who their students are, their characteristics and the domestic environment in which they operate.
3. ODL institutions must provide the resources (equipment and software) and training for students when introducing new technology.
4. ODL institutions must provide access and technical support to students to ensure the effective use of new technologies.

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**Key words:** New technology, distance teaching, distance learning.

## INTRODUCTION

The two disciplines of distance education and educational technology have seen dramatic changes and growth recently. Although the two areas have been developing concurrently, they have been doing so rather independently. Distance education technologies are expanding at an extremely rapid rate. Computer networking is opening the way to virtual classrooms and unprecedented communication (Myrdal, 1994). The major purpose for adopting new technologies in ODL institutions is to provide accessible, affordable and quality distance education to all students regardless of factors such as physical disability, their educational background and their financial status. However, too often, instructional designers and curriculum developers have become enamored of the latest technologies without dealing with underlying issues of learner characteristics and needs, the influence of media upon the instructional process, equity of access to interactive delivery systems, and the new roles of teacher and the student in the distance learning process (Sherry, 1996). Adoption of new technology is likely to impact, positively or negatively, on the quality, flexibility, accessibility and affordability of distance education.

This article discusses the challenges distance education students at the Zimbabwe Open University experienced when a new technology (CD-ROM digital text) was introduced as the central medium of instruction.

## BACKGROUND OF THE STUDY

University distance education, in Zimbabwe, has been in existence for approximately ten years. Since the establishment of the Zimbabwe Open University (ZOU) in 1999, distance education has acquired a dubious reputation, establishing a conflict with many traditional colleges and universities (Izuagie, 2001). Critics have based their attack on the issue of quality, arguing that by making university education affordable, flexible and accessible, distance education has managed to achieve quantitative expansion but has compromised effectiveness, efficiency and the quality of education provided. Issues of affordability, flexibility, accessibility and quality of distance education, have become topical issues and continue to attract the attention of educational researchers, distance education scholars and educators.

The Zimbabwe Open University (ZOU) is the largest state funded university, in Zimbabwe, established to cater for a substantial component of people who, by design or unintentionally, could not be accommodated in conventional universities, by offering them the opportunity to study in their homes and in their workplaces through distance education.

The (ZOU) evolved out of the University of Zimbabwe in 1993, initially as a Centre for Distance Education in the Department of Education. In 1996 the Centre for Distance Education became the University College for Distance Education.

Three years later, on 1st March 1999, through an Act of parliament (Chapter 25:20), the college became the Zimbabwe Open University. Over the past ten years, distance education has challenged historical perceptions and has started climbing the Ivory Tower. Since 1993, distance education at the ZOU has been grown in leaps and bounds. By 2004 ZOU had become a mega university with approximately 18700 students, 1795 academic staff and 395 non - academic staff. During the time of this study, in 2010, ZOU had four faculties;

- the faculty of Arts and Education,
- the faculty of Science,
- the faculty of Commerce and Law, and
- the faculty of Social Sciences.

The university was by then offering 30 undergraduate degree programmes, 3 diploma courses, 5 masters' degrees and 2 doctoral degrees. The phenomenal growth of distance education in Zimbabwe has been a success story (Benza, 2001). However, Prof. Izuagie (2002), Pro Vice Chancellor of the Zimbabwe Open University identified a number of challenges that were militating against effectiveness, efficiency and quality of education at the ZOU. Izuagie (2002) identified five major challenges confronting the university as;

- Poor internal communication,
- Shortage of funds,
- Inadequate staffing,
- Lack of suitable technology, and
- Organizational resistance to change.

These problems became more acute in 2008 due to the economic and political challenges the country was experiencing. The inflationary environment caused the cost of providing distance education to balloon. In order to keep the university afloat, a number of drastic measures were adopted to reduce operational costs. Tutorial hours were reduced from 10 hours to 4 hours. The printing of modules (new and old) was suspended. Thus some courses were presented without modules. The ZOU has always used tutorials and the module as the main media of instruction. In order not to completely abandon the student, ZOU introduced the use of the CD-ROM digital texts in those courses which had no modules. However, the introduction of the CD-ROM text has become a topical issue that has raised heated debate in departmental, faculty and senate meetings. Those supporting the use of CDs have argued that ZOU must adopt new technology in order to survive in today's computer age. On the other hand, critics have seen the use of CDs as one way of abandoning the distant student! Researchers in distance education have argued that the introduction of new technology in distance education brings with it both opportunities and challenges to the distance student. Are these challenges universal or unique? Zimbabwe is a developing country in Southern Africa with very low levels of technological development.

Thus, the introduction of new technology, the opportunities it brings and the challenges encountered, especially in distance education, have become issues of interest to distance educators, scholars and researchers.

The present study, therefore, sought to capture students' perceptions and experiences in the use of the CDs and to establish the impact of CD-ROM digital texts on the quality, effectiveness, affordability and accessibility of distance education at the ZOU?"

## Research Questions

The present study sought to answer the following questions:

- Were ZOU students well prepared to use CD-ROM as the central medium of instruction? By preparedness, we meant students' access to computers, level of computer literacy and financial capacity?
- Did ZOU students find CD-ROM text convenient to use in terms of time, space and pace?
- What was the impact of CD – ROM on the quality of distance education at the ZOU?
- What should ZOU do to improve effectiveness of CD-ROM as a medium of instruction?

## Importance of the Study

The present study has both theoretical and practical significance to ODL institutions. It presents a critical analysis of how new technology was introduced to enhance teaching and learning at the ZOU. It examines the underlying theory, model and assumptions that influenced the introduction of the CD-ROM as a delivery mode.

The study also assesses opportunities and challenges faced by the ZOU students in the use of CD-ROM digital texts. Findings of the present study have direct implications to ODL institutions that have adopted or are

planning to adopt new technologies in their delivery mode. The study will also benefit distance educators, scholars and researchers with an interest in the role of technology in distance education.

## LITERATURE REVIEW

### Distance Education Defined

Holmberg (1986:7) says the term Distance Education was formally recognized, internationally, in 1982, when the then International Council for Correspondence Education (ICCE) changed its name to the International Council for Distance Education (ICDE). Since then, distance education, as a field of study and mode of activity, appears to have taken significant strides and importance. The concept distance education is, therefore, relatively new and several writers and scholars have attempted to define and explain what they understand by the term 'distance education'.

In reviewing these definitions, we note the relationship between distance education and technology. In his explanation, Peters (1976), tends to use the term distance education somewhat interchangeably with the broader concept of correspondence education. Peters (1976) argues that distance education is characterized by the following features;

- Research and Development-Management
- The use of Printed Material, Radio and TV Programmes
- Counselor for specific problems concerning studies
- Advisors for general studies problem
- Supplementing study circles
- Computers.

According to Peters (1976) technology in distance education comprises of printed materials, radio and television programmes. Another scholar, Moore (1983:157), conceives distance education as synonymous with 'independent study'. He defines distance education as "…an education system in which the learner is autonomous and separated from his teacher by space and time, so that communication is by print, electronic, or other non-human medium". According to Moore (1983), Distance Education is a system consisting of three sub-systems; the learner, teacher and a method of communication. These methods of communication (print, electronic and non-human medium.) constitute technology. Professor Holmberg (1977) says the term "Distance education" includes all 'those teaching methods in which, because of the physical separateness of learners and teachers, the interactive, as well as the pre-active phase of teaching is conducted through technology (print, mechanical or electronic devices). Keegan (1986:49-50) definition includes two principal characteristics, which he regards as being essential for any comprehensive definition of distance education.

These characteristics are;

- The separation of teacher and learner, which distinguishes it from face-to-face lecturing; and
- The use of technical media, usually prints, to unite teacher and learner and carry the educational content.

Preferably, the definition that best meets the purposes of this study comes from the book *Distance Education*: *A Systems View (1996).* In this book, Michael G. Moore and Greg Kearsley write:

*Distance education is planned learning that normally occurs in a different place from teaching and as a result requires special techniques of course design, special instructional techniques, special methods of communication by electronic and other technology, as well as special organizational and administrative arrangements. (P.2)*

An analysis of all the above definitions reveals that in distance education, the teacher is separated from the learner by distance in the form of space and time. Cropley and Kahl (1983) identify 'distance' as the unique feature of distance education.

Technology then enables the teacher to teach at a distance and the student to learn at a distance. Cropley and Kahl (1983) also identify 'technology' as the second key feature of distance education. Scholars and writers in distance education have attempted to define what is meant by technology. Let us briefly look at these explanations.

### Defining Technology

The term technology as explained by Simiyu (1999) has its origin in Latin. It encompasses two concepts, i.e. "technic" which means tools and materials, and "logic" which covers the different approaches in solving a problem. The term technology as applied to the processes of education includes the ways of organizing events and activities to achieve educational objectives as well as the materials and equipment involved in the process. Technology can be defined as a product and as a process.

### Technology as a product

Technology, as a product, is the end result of the systematic application of scientific knowledge in finding practical solutions to specific problems. As a product, educational technology can include teaching procedures, practices and materials. Consequently, the inputs from technological developments, on the one hand, comprise non-physical products (programmed learning, individualized learning, teaching skills, the use of computers in learning, computer assisted education, comprehensive educational syllabi or curricula, multimedia, etc.). They also include physical products such as micro-computers, video cassette recorders, radio and television sets, videotape recorders, tape recorders, overhead projectors, photographic slides, electronic acetates, etc. Some authors add to this list of products language, writing case, pencil, paper, books, newspapers and films.

### Technology as a process

Technology as a process includes functions connected with the management of organizations and human resources, research (the setting of theories, rational methods and practices related to the techniques of education and learning), logistics, the use and establishment of systems (Gagne, 1997).

For the purposes of the present study technology was taken to mean both the equipment (CD-ROM) used in the delivery mode and the processes involved in the use of CD-ROM for teaching and learning purposes.

### Use of Technology in Distance Education

Garrison (2000) proposed three generations of distance education based on the technological changes that have occurred in the field. The first generation was based on the printed word and delivered by mail. The second generation was ushered in with the advancement of broadcast media, primarily in the form of television but also radio. The third generation of distance education occurred with the advent of computers and their use to deliver instruction material (Garrison 2000). As the third generation permeates the remote delivery of instruction, students are coming to expect institutions to deliver courses "on-line". Digital information will allow for a new generation of distance education that will lead to the virtual campus.

It is believed that technology makes distance education flexible, accessible and affordable and also enhances interactivity. However, the use of the CD ROM at the ZOU, according to 72% of the students, restricts them to study at a particular time in a particular place. Hence ODL becomes inflexible. Models of distance education implemented in developing countries, like Zimbabwe, suffer from lack of appropriate technology because the level of technological development is still very low. The use of technology in distance education, in Zimbabwe, is best discussed under three phases which Matshazi (1991) has referred to as generations. These generations show how distance education has developed and the type of technology employed in each generation.

### The First Generation Technology (1920-1980)

In Zimbabwe, distance education technology can be traced back to the early 1920s when distance education was still known as correspondence education. Correspondence education in Zimbabwe was offered by private colleges such as Rapid Results College (RRC) and Central Africa Correspondence College (CACC). Correspondence education was less structured from teaching and study material production to delivery. The media in the first generation included written or printed material in the form of study notes, study guides and tutorial letters. Learners kept in touch with their tutors by various means ranging from correspondence, telephone and individual consultation visits and had to attend to regular written assignments, which were dispatched to the individual tutors and returned by post. The instructional media were highly flexible. Students were able to study during their own time, anywhere (at home or at work) and at their own pace. The major weakness in correspondence education was that the media used had limited interactivity. Learner-teacher feedback processes were slow, sparse and mostly restricted to the periods where the learners submitted scheduled assignments.

### The Second Generation Technology (1980-2000)

In Zimbabwe, the earliest form of distance education started in 1980 and was used in the training of primary school teachers through a programme called the Zimbabwe Integrated National Teacher Education Course (ZINTEC). The ZINTEC programme was a four-year teacher-training course. Students had to undergo an initial sixteen-week residential course during which they were introduced to the programme and taught professional foundation courses, wrote assignments and end of term examinations. After the sixteen weeks, student teachers were deployed in primary schools, for 160 weeks, and received the bulk of their training on the job through distance education.

The main medium of instruction was the printed module. During this time, students wrote assignments, posted them to the college and received the marked assignments through the post. At the end of the programme, student teachers attended another sixteen-week residential course and wrote the final examinations.

During the same period, in 1993, distance education degree programmes to train educational administrators and managers were started at the University of Zimbabwe. A multi-media approach that integrated the use of printed material with broadcasting media (radio and television), cassettes, audio-tapes, and, to some degree, computers was adopted (Matshazi, 1991).

The strengths and weaknesses of the second generation were the same as those of the first generation except that second generation media technology is much better in that they include telephone as well as some face-to-face tutorials. The major weakness of radio and television is that they have limited flexibility in terms of time, place and pace of study. Interactivity is also limited.

The second generation technology gives very low priority to the process of communication, by making communication one way or very restricted two ways resulting in a strong social bias which has expelled educationally or socially weaker learners. (Matshazi, 1991).

### The Third Generation Technology (2000 to 2010)

The third generation technology in Zimbabwe is characterized by computer-mediated communications technology that includes the use of print material, e-mail, CD-ROM, the Internet, and face-to-face tutorials. All these instructional media, except for the print text, are highly flexible and interactive. Communication is asynchronous (two way) and effective. The major weakness in the use of these technologies is that the majority of students do not have access to computers because they are very expensive to acquire.

However, what seems to disturb about the introduction of high technology in African distance education is the fact that high technology is expensive, therefore, beyond the reach of many would be providers of and learners

in distance education programmes. As a central element, rather than a learning aid in distance education programme, computers mediated communication smacks of more problems than solutions. When high technology is elevated to the level where it becomes the mainstay of a distance education programme, it becomes very expensive. Matshazi (1991) says ODL should be cautious in the sense that despite the availability of and possibilities for using high technologies in their provision, the printed word remains central and resources need to continue to be mobilized to support or supplement the printed word.

## Introducing New Technology: The Model

Models in distance education have a great influence on management decisions to adopt and implement a new technology. The type of technology to be adopted and the way it is implemented mainly depend on the model of distance education senior management ascribe to. Scholars of distance education have identified a number of models that outline how ODL institutions should introduce new technologies in their systems. In this article, we focus on a model developed by Clark et. al. in 1988. According to Clark et. al. (1988), the process of introducing new technology consists of five distinctive stages. These are:

- initiation,
- decision to adopt,
- system selection,
- implementation, and
- routine operation.

Initiation refers to the process by which managers identify and pursue an opportunity for the adoption of new technology.

The decision to adopt refers to the process leading up to the decision to invest resources in its purchase and introduction. System selection denotes the process of in-house design and development of a particular system or equipment or choice of system from an external supplier. The forth stage, implementation, embraces the process of introducing the technology in the workplace. This includes both technical and human aspects of installing, commissioning and debugging of the chosen technology and the mediating role of management and union strategies towards implementation. The final stage, routine operation, is where the system has been brought into service and a stable pattern of working of the technology has been established.

## Previous Research Studies

A number of researchers have identified technological challenges faced by ODL institutions in Africa and their distance education students at present as the availability of computers, knowledge of computers, and knowledge of networking. Problems arise when a technology-led approach is adopted and the needs of individuals who might use the technology are an after thought (Vincent, 1995).

Introducing a new technology without preliminary research is often based on assumptions that the student has access to the technology and is able to use the technology in the learning process. Technology–led assumptions of this kind are not unusual in the distance education world of the 2000s.

A recognition of the diverse context within how much distance learning takes place is essential, not only for those directly involved in the development of distance education learning materials, but also for the policy makers responsible for the introduction of the new technology. A major concern is that such an approach, which is common, can undermine the potential of using information technology. Myrdal (1994) noted that in Iceland, for instance, when implementing online education, over 90% of faculty and students had never used the computer networking capabilities prior to the attempt reported. Another attempt to include e-mail transactions in a course for teachers in California encountered students who had no access to computers or little knowledge about computers (Fisher and Desberg, 1995). A project in Canada found that even when students had access to computers and knowledge about them generally, students still needed considerable

time to master the techniques involved in using e-mail for discussions and communications, and searching and retrieving information from remote sites (Barnes, 1995).

Distance educators involved in the development and dissemination of media-based materials for home study need to be aware at the very least of the extent to which technology could be used for studying. Research on the location and patterns of use of media technology is important. This research can provide information about the extent to which media technologies that could be used for studying are to be found in the homes of students or potential students.

In a distance education environment such as the home environment, the lack of immediate advice and support also places even greater demands on providing appropriate, accessible and effective technology. For this reason, the present study actively engaged students in order to identify challenges they are facing in the use of CD-ROM text and to identify important factors that need to be taken into account when introducing new information technology. Information communication technologies undoubtedly have a great potential for distance education but the domestic environment within which students work and student ability to use the technology often seem to be overlooked or its constraints underestimated by those advocating the wider use of such technologies. This literature review has argued the need for all institutions to undertake research on both the quantity and quality of students' access to media technologies and has provided some illustrations from the UK studies.

## RESEARCH DESIGN

The present study adopted the descriptive survey research design. The survey design was preferred because it is the most appropriate design where perceptions of participants are sought. Leedy (1985), points out that a survey design is one of the most effective ways of conducting research. It is effective in gathering information that describes the nature and extent of specified data, providing a systematic attempt to collect information, describe it and explain perceptions, beliefs, values, views and behavior.

### Methods and Procedures

The present study focused on three key issues; (1) students' preparedness in the use of CD –ROM in their studies, (2) whether students found CDs convenient to use and (3) what ZOU should do to improve effectiveness of CD-ROM in the teaching and learning process. A questionnaire (see Appendix 5 was used to collect data from a stratified random sample of 100 undergraduate students, 25 from each of the four faculties at the ZOU. The four faculties were (1) Arts and Education, (2) Commerce and Law, (3) Sciences and (4) Social Sciences.

## DISCUSSION OF RESEARCH FINDINGS

Students' Preparedness to Use CD-ROM Digital Text.

### Computer literacy

The present study revealed that 34% of the respondents were computer literate. All ZOU programmes had a computer course but the course is mainly theoretical thereby only testing theoretical understanding of computer concepts. The course does not give students hands-on practical skills in the use of computers. Studies have also found that students often face challenges of learning the practicalities of how to use the technology effectively. For example, learning how to use a computer can be extremely frustrating and time consuming, particularly when in the privacy of one's home. When the OU introduced its home computing policy from 1988 a large proportion of students were novices in the use of computers. (Jones et. al., 1992). A variety of supporting mechanisms were established to provide assistance, including specially prepared guidance notes and a Help Desk that students could telephone for advice on how to overcome problems they

encountered in their computing activities. However, despite the low levels of computer literacy amongst ZOU students, no initiative was undertaken to train students in the use of computer CD-ROM text.

### Access to computers

Only 5% of ZOU students owned or had a computer at home due to the fact that computers are very expensive with a simple PC costing $600. 00. Five percent of the students had access to a computer at their workplace. However, these students reported that they still needed permission from their superiors to use the computer for their studies. In most cases this permission was not granted. And also stealing time at work to do private studies on the computer was, according to many students, unethical. The majority of students working in rural areas had no access to a computer. Most rural areas in Zimbabwe are not electrified. Results of the present study show that distance education students in Zimbabwe are experiencing the same technological challenges experienced by students at the OU, UK ten years ago. Taylor's 1991 survey of a random sample of undergraduate students at OU, UK revealed that only 24% had access to a computer at home with a further 17% having access both at home and at their workplace. Distance educators involved in the development and dissemination of media-based materials for home study need to be aware of the extent to which their students are likely to have access to suitable equipment at home that could be used for study. According to Clark et. al. (1988), preliminary research must be carried out before the adoption of a new technology. This research can provide information about the extent to which media technologies that could be used for studying can be found in the homes of potential students.

If there is no suitable domestic equipment already, it is also important to know if it is feasible to arrange for equipment to be hired (from the distance teaching institution or elsewhere). The present study found that ZOU did not undertake any preliminary survey of students' access to computers before the introduction of the CD-ROM text. As a result the introduction of CD-ROM as a medium of instruction has been met with serious challenges and stiff resistance.

### Convenience in the use of CD-ROM digital text

The majority of students 58% of those who had access to computers reported that they experienced inconveniences in the use of CD-ROM texts. The inconveniences resulted from the fact that CD-ROM text can only be accessed in places where there is a computer and electricity, whereas the module can be carried and read anywhere anytime even when a student is travelling on any mode of transport. There is also a need to recognize the environment within which it is to be used. Research on location and patterns of use of media technologies at the OU UK (Taylor, 1992) show that, in most homes, the computer is located in the main living room, which is open for use by all members of the household.

Thus, home-based students cannot just use the computer whenever their study schedule suggests. They often have to negotiate the convenient time with other members of the household or wait until everyone is out or asleep. Thus, ODL institutions using technology to teach their students need to be aware of domestic patterns of their use. Successive OU surveys on the use of computers have found that a larger proportion of those students with home access to a computer has the machine located in a quite private area like a study or spare bedroom. However, a significant minority has to undertake computing activities using equipment set up in a public part of the household.

Another important feature of using a computer at home for study purposes is the inconvenience caused to other members of the household. In the present study, 20% of those who had access to computers said they were aware of inconveniences their use of the computer caused to others at home or at the workplace. Using the computer especially when printing, can cause noise that disturbs others. It is also possible for household members to cause noise or to inconvenience the student when he or she is trying to work. The general access survey undertaken by Taylor in 1992 at the OU UK indicate that about 30% of the students were aware of inconveniences caused to others when using the computer for their studies.

Women tend to be more likely than men to report the inconvenience to others. This is because female students are likely to consider the computer they use to be a family resource while male students use equipment that is theirs. Information communication technologies undoubtedly have a great potential for ZOU distance education but the domestic environment within which ZOU students' work seems to have been overlooked or its constraints underestimated by those advocating the wider use of the CD-ROM text.

### Printing costs

Seventy-two percent of the students reported that the printing of the module was an intolerable financial burden. The students were required to pay fees and then meet the cost of printing the CDs.

## IMPLICATIONS

Findings of the present study have direct implications to ODL institutions that have adopted or are planning to adopt new technologies in their delivery mode. The study will also benefit distance educators, scholars and researchers with an interest in the role of technology in distance education.

### Knowing and understanding the student and his/her environment

Technology is meant to make distance education accessible to all students regardless of their place of residents, social, financial or political status. However, the CD made it quite impossible to access information due to the fact that only a few students, 12%, had access to computers. Therefore, isolating 88% who could have been accommodated in distance education through the use of the traditional module. ODL institutions, therefore, must know and understand who their students are, their characteristics and the domestic environment in which they operate. Before introducing new technology, ODL institutions must conduct surveys to determine the extent to which students are ready and prepared to use the new technology effectively. It is also very advisable to carry out a survey on the benefits of new technology or an innovation. There is a need to set up structures that support the use of the new technology; for example, capacity building in the form of staff that could be trained in the use of the new technology. Students should also be trained in the use of the new technology. The institution should provide equipment in labs and even for hire or loan the student. A help desk can also be set up to advice students in need of help. Training workshops should be held and guidelines provided to users of the new technology.

### Institutional Support: Technical Support and Access

ODL Institutions must not use technology that abandons the distant student! There must be resources not only to provide the software and at times the hardware but also the training. Assumptions cannot be made that the distant student possesses the necessary skills required to survive in a virtual classroom. An institution never assumes that the traditional students do not require the basic presentation, communications and intellectual skills. Likewise, the distance education system should never make assumptions on the technical skills of their students.

Support must be provided and the most successful avenues have been: call-in help desks, structured and evaluated workbooks, and informed technical tutor support. To provide this support, an institution has to allocate resources and factor in the wide range of requests and training while keeping in mind the time elements that the requests may arrive and the need to keep the services up and running twenty-four hours a day. There is a direct relationship between support and instructional effectiveness (Moore, 1996).

Another critical aspect to be considered by institutions is the issue of access. To offer distance education and to believe that there is a "technocentric utopianism" is naïve. Institutions must factor into their distance education system the reality that not all students will have equal access to information technology. Is it the

responsibility of a college or university to provide this access? If the institution is committed to a distance program, then they have an intrinsic responsibility to address the issue of equality to access.

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# PROBLEMS AND PROSPECTS: Women Development through Non-Formal Basic Education

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## ABSTRACT

Main purpose of the study was to evaluate the challenging role of Non-Formal Basic Education (NFBE) in eliminating the poverty and gender disparities in the rural areas of Punjab. Problems and issues pertaining to the NFBE were also assessed in this study. 750 students, 250 teachers and 50 administrators were taken as samples systematically. An inventory sheet and three questionnaires were used as research tools for data collection. Main findings of the study revealed that NFBE schools are playing a dynamic role in national development by uplifting socio-economic status of masses in the rural areas. NBFE schools were also playing a vital role in discriminating gender disparity by providing equal opportunities of education to male and the female as well. Teachers' remuneration was insufficient and there was a lack of physical facilities (lack of buildings, electricity and furniture, etc.) in these schools. Syllabus of NBFE was informative, easy, interesting and illustrated with diagrams. Motivational campaigns may be launched through media to mobilize community for maximum participation in the NBFE schools.

**Keywords:** Non-formal basic education, women development, poverty elimination.

## INTRODUCTION

Due to the population explosion and swiftly increasing demand for education even developed countries are unable to overcome the prevailing challenges through the formal system of education. Most of the developing countries are in a miserable situation regarding the level of education and literacy. Attacking poverty has become an international concern for placing in the paradigm of 'education and learning for sustainable development' in consideration of the reality that almost half of the world's population live in poverty. Pakistan is the sixth populous country in the world and unfortunately, more than half of the population is living below the poverty line. Educated and well off urban population lives not so very differently from their counterparts in other countries of similar income range, or even of their counterparts in Western countries. However, the poor and rural inhabitants of Pakistan are being left behind (World Bank, 2002). Due to scarce resources and financial constraints developing countries are unable to cope with the drastic demand for education and consequently, non-formal education (NFE) seems blessing to meet this challenge of poverty alleviation.

## NON-FORMAL EDUCATION

Non-formal education is an organized educational activity outside the established formal system, whether operating separately or as an important feature of some broader activity that is intended to serve identifiable learning clients and learning objectives. (Combs as quoted by Rashid 2000, p.21) The major advantage of non-formal education in the training of teachers or instructors is its relative cheapness. Formal education being

institutionalized, need a cadre of professionally trained full-time teachers and has long cycles of general education, which add to its operating costs.

Non-formal education being capable of mobilizing resources from a variety of sources, using building and facilities that are not used in the evening and employing voluntary help cuts down on its costs. It is basically for this reason, that the developing countries can mobilize support for a sizeable enlargement of rural non-formal education, provided that the political climate it's favorable and the leaders and people are strongly determined to build a better life. From the above it is concluded that existing formal system of education especially in developing countries obviously cannot cope with the drastic demands of trained personnel.

The demand for the trained personnel in Non-Formal Education as an alternative of formal education is being increased throughout the world. NFE consists of assortment of organized and semi organized activities operating outside the regular structure and routine of the formal system, aimed at serving a great variety of learning needs of a different sub-group of population both young and old. NFE consists of assortment of organized and semi organized activity operating outside the regular structure and routine of the formal system, aimed at serving a great variety of learning needs of different sub-groups of population, both young and old.

There are more than 9500 personnel involved in the human resource development through the non-formal system of education in Punjab. At this stage formal system of education is unable to cope with the challenges of drastically increased demand for education. In this scenario non-formal education seems the only cure for the development of human resources in rural areas. It has begun to play a dramatic role in the elimination of poverty by educating those who have long been ignored in Pakistan; the country's rural and its poor.

## REVIEWS AND ANALYSIS OF NATIONAL EDUCATION POLICIES 1947 -2010

In 1947, only a few months after independence, Pakistan Education Conference was convened. This conference recommended that free and compulsory education should be introduced for a period of five years, and it should gradually be raised to eight years. The commission on National Education (1959) recommended compulsory education for all children between five and ten years of age. However, the New Education Policy (1970) fixed 1980 as a target date for achieving universal Primary Education. Whereas, the National Education Policy (1972-80) aimed at free and Universal Education until class X to be achieved. The free education was extended to class IX and X in 1974.

The National Education Policy (1979) phased the target dates 1987 for boys and 1992 for girls. Similarly, during the 1990's two education policies,

- the Education Policy of 1992, and
- the Education Policy (1998-2010) were announced.

Regarding UPE through community participation former policy expressed 100% participation by 2002 Restructuring the existing Education System While later policy (1998-2010) expressed Enhancing participation rate from 71% to 90% by 2003 and 105% by 2010. The summary of all education policies is given below:

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Table 1
Summary of targets and strategies of education policies

| Policy | Targets | Strategies |
|---|---|---|
| Pakistan Education Conference 1947 | Free and Compulsory Education<br>UPE within two decades by 1967 | Free and Compulsory<br>Levying a special Tax to finance primary education<br>Primary schools age group between 6-11 years.<br>Encourage private sector to open primary schools |
| National Education Commission 1959 | UPE within a period of 15 years by 1974 | Compulsory and Universal Primary Education.<br>Compulsory Religious Education.<br>Female teachers for primary education.<br>Resource mobilization for additional funds. |
| The Education Policy1970 | Universal Enrolment up to class V by 1980 | Attractive schools to eliminate dropout.<br>Rapid expansion<br>Emphasis on female enrolment<br>Female teachers for primary education. |
| The Education Policy 1972 | UPE for boys by 1979 for girls by 1984 | Free primary education.<br>Priority to rural areas<br>Emphasis on female enrolment<br>Standardized low cost school buildings |
| National Education Policy 1979 | UPE for boys by 1986-87 for girls by 1992 | Rapid expansion of female education with opening of mosque and Mohalla schools. Efforts to reduce dropouts. |
| National Education Policy 1992-2002 | UPE through community participation.<br>100% participation by 2002<br>Restructuring the existing Education System | Training and recruiting new primary teachers.<br>Active participation of Community for UPE.<br>Special programme to retain female students<br>Provision of special Federal Fund for Primary Schools. |
| National Education Policy 1998-2010 | Enhancing participation rate from 71% to 90% by 2003 and 105% by 2010.<br>Reduction of disparities by 2010 Opening of 45000 New Formal Primary Schools | Revision of service structure of teachers.<br>Uniform curricula for public and private schools.<br>Political will for objective achievement and resource mobilization of Primary schools.<br>Free and compulsory primary education. Act shall be enacted and enforced in phased manner.<br>Revision of the examination and assessment system. |

Source: Shami, P.A and Hussain, K.S. (2005) *Basic Education in Pakistan*, Islamabad: Academy of Educational planning and Management, Ministry of Education.

The table below depicts a gradual rise in achievements in plan-wise participation rates at primary level of education but still Pakistan is far behind as compared to its neighboring countries, i.e. India, Bangladesh and Sri Lanka, etc. There is a need of judicious plans and policies so that Pakistan can survive in a respectable manner on this planet.

Table 2
Plan-wise participation rates at primary level of education

| Five year Plans | Bench Mark | Target | Achievement |
|---|---|---|---|
| First Plan 1955-60 | 52 | 58 | 36 |
| Second Plan 1960-65 | 36 | 56 | 45 |
| Third Plan 1965-70 | 45 | 70 | 46 |
| Non Plan 1970-78 | 46 | 65 | 54 |
| Fifth Plan 1978-83 | 54 | 68 | 48 |
| Sixth Plan 1983-88 | 48 | 75 | 64 |
| Seventh Plan 1988-93 | 64 | 79.7 | 68.9 |
| Eighth Plan 1993-98 | 68.9 | 87.7 | 72.4 |
| Ninth Plan 1998-2003 | 72.4 | 90 | 75 |

Source: Shami, P.A and Hussain K.S. (2005) *Basic Education in Pakistan*, Islamabad: Academy of Educational Planning and Management, Ministry of Education.

Education, as a fundamental human right, is considered very important and strategic for developing their human resources.

Table 3
Plan-wise participation rates at primary level of education

| Domain | Year | Sex | Pakistan | Punjab | Sindh | NWFP | Baluchistan |
|---|---|---|---|---|---|---|---|
| Literacy rate (10 years & above) | 2005-06 | Male | 65 | 66 | 67 | 64 | 54 |
| | | Female | 42 | 47 | 42 | 30 | 20 |
| | | Total | 54 | 56 | 55 | 46 | 38 |
| | 2007-08 | Male | 69 | 70 | 69 | 68 | 66 |
| | | Female | 44 | 48 | 42 | 33 | 23 |
| | | Total | 56 | 59 | 56 | 58 | 46 |
| Enrolment (Net Primary) (NER) | 2005-06 | Male | 56 | 60 | 54 | 51 | 39 |
| | | Female | 48 | 53 | 47 | 42 | 27 |
| | | Total | 53 | 57 | 50 | 49 | 34 |
| | 2007-08 | Male | 59 | 62 | 55 | 55 | 47 |
| | | Female | 52 | 59 | 46 | 41 | 35 |
| | | Total | 55 | 61 | 51 | 49 | 41 |
| Completed Primary or Higher Level Education | 2005-06 | Male | 54 | 54 | 57 | 53 | 36 |
| | | Female | 33 | 37 | 35 | 23 | 11 |
| | | Total | 43 | 45 | 47 | 37 | 25 |
| | 2007-08 | Male | 58 | 58 | 60 | 54 | 46 |
| | | Female | 37 | 42 | 36 | 24 | 15 |
| | | Total | 47 | 50 | 49 | 38 | 32 |

Source: Pakistan Social and Living Standard Measurement Survey (PSLM) 2005-06, 2006-07 and 2007-08, Economic Survey of Pakistan 2007-08, Pakistan Education Statistics 2006-07 and Pakistan Statistical Year Book, 2008).

The right to education imposes an obligation upon countries to ensure that all children and citizens have opportunities to meet their basic learning needs. Pakistan, the second largest country in South Asia, is the sixth most populous country in the world with a population of 176 million, of which approximately 61 percent lives in rural areas. Literacy rate of Pakistan is nearly 54 percent: 65.25% for men, and 41.75% for women. In fact, the rural (44% overall, 58% for men, and 29% for women) literacy rate indicates the alarming situation of the rural population. Embarrassing situation of literacy, especially in rural areas of Pakistan, is the result of low financial priority to education as well as ill-conceived non-consistent policies in the past.

It is evident from the table 3 that although literacy rate has approached to 56% yet it is far behind for respectable survival on this globe in the knowledge driven economy era. Especially the alarming female literacy rate of Baluchistan (23) and it is questioning how a massive illiterate segment which is nearly 50 % to the population (Coleman, 2004) will contribute in the national stream of progress. The Net Enrolment Rate (NER) is 55 percent in 2007-08, substantially increase as compared to the NER of 2005-06 but very low in the 21st century where nations like USA, UK, Japan and France with knowledgeable masses are heading fast while nations like us are lagging behind in the race progress and prosperity on this planet. Similarly embarrassing situation as only 37% female have passed their primary or higher level of education while in Baluchistan situation is worsening where only 15% have completed the same level of education.

Many factors lead to low enrolment and retention rates of students. These factors include poor quality of teaching, high teacher absenteeism, low remuneration for teachers, and long distances to schools. Based upon interviews with parents, community members, and other stakeholders, the task force believes that with effective school management and improved teacher motivation, the quality of reaching improves, and a greater number of parents is motivated to send their children to school.

For Pakistan to meet its education targets, the formal primary education system may undergo long-term reforms to reduce drop-out rates and increase access and quality of education. However, a short-term solution is also needed to ensure educational opportunities for children who have either dropped out or never joined the formal education system. To this end, the National Commission on Human Development establishes a network of community based non-formal schools. These non-formal schools are working as a support system addressing the immediate needs of the education sector while the Ministry of Education builds its own capacity to cover all of Pakistan. Children who graduate from the NFBE programmes can either join formal schools or vocational training programmes.

The commission is implementing the Non-Formal Basic Education (NFBE) programmes through selected NGOs. The human development incubators in each district are funding support and building capacities of NGOs delivering non-formal education. Incubators are provided with hired services such as school budgeting, account management and teacher training. The NFBE programmes are helping Government of Pakistan to achieve its primary education goals. In the rural areas of Gujranwala region 500 NFBE schools were being run by NGOs for the elimination of poverty and gender discrimination.

These schools provide equal opportunities of education to male and female but virtually; all the teachers and students of these schools were female District wise break up is given below:

Table 4
Students and teachers in the NFBE Schools Gujranwala Region

| Sr. No. | Name of District | NNFBE Schools | Total Students | Total Teachers |
|---|---|---|---|---|
| 1. | Gujarat | 85 | 1205 | 85 |
| 2. | Mandi Baha-ud-Din | 95 | 1520 | 95 |
| 3. | Narrowal | 115 | 1625 | 115 |
| 4. | Hafiz Abad | 90 | 1315 | 90 |
| 5. | Gujranwala | 105 | 1535 | 105 |
| 6. | Sialkot | 10 | 300 | 10 |
| 7. | Total | 500 | 7500 | 500 |

It is evident from Table: 1. that more about 8000 females (7500 students and 500 teachers) were enhancing their socio-economic standard by imparting and getting education in these NBFE schools.

## MAIN OBJECTIVES

Main objectives of the study were to:

- Assess the role of Non-Formal Basic Education in women empowerment in Punjab.
- Evaluate the problems and issues of Non-Formal Basic Education in Punjab.

## RESEARCH METHODOLOGY

The focus of the study was to evaluate the existing non-formal basic education in rural areas of Gujranwala region (Gujarat, Mandi Baha-ud-Din, Narrowal, Hafiz Abad, Gujranwala and Sialkot districts). The study used survey approach of the descriptive research to find out the opinion of various personnel (students, teachers and administrators) of these NFBE schools.

### Population and Sampling

The population consisted of 7,500 students, 500 teachers and 100 administrators of Non-Formal Basic Education Schools. Therefore, 10% of the students (750), 50% of the teachers (250) and 50% (50) administrators were taken as samples of the study. The samples were drawn from the master list of the respective populations using systematic random sampling technique.

### Instruments and Their Development

Keeping in view the nature of the problem, descriptive, i.e. survey type study was carried out to collect the data. Therefore, to elicit the opinions of the respective respondents, three questionnaires were developed on a five-point scale.

1. Questionnaire for students.
2. Questionnaire for teachers.
3. Questionnaire for administrators.

All the statements of the questionnaire were close-ended except the last one, so that respondents could write a free response in his/her own words. Main focus of the questionnaires was on:

- Physical facilities like electricity, furniture and toilets, etc.
- Availability and utilization of educational technologies
- Teaching methodologies

- Evaluation of schools and the programme
- Community needs and participation
- Experience of NFBE
- Facilities for students and the teachers
- Gender disparities, and
- Problems and issues pertaining to these schools

## Analysis of Data

Data collected through the questionnaires were presented in a tabular form and analyzed by applying percentage and mean score formulas.

Table 5

Opinion of students, teachers and administrators about physical facilities, availability and usability of audiovisual aids (AV Aida)/educational technologies and teaching learning environment are given below.

| Area | Theme | Students | | | Teachers | | | Administrators | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | f | % | $\bar{x}$ | f | % | $\bar{x}$ | f | % | $\bar{x}$ |
| Physical facilities | Availability of electricity | 348 | 67 | 2.49 | 175 | 73 | 2.2 | 34 | 74 | 2 |
| | Availability of furniture | 391 | 75 | 2.1 | 203 | 85 | 2 | 37 | 80 | 1.9 |
| | Availability of toilets | 362 | 69 | 2.2 | 202 | 85 | 2 | 35 | 76 | 1.8 |
| A.V. Aids/ Educational technologies | Availability and usability of black board, charts and pictures | 467 | 90 | 4.2 | 150 | 67 | 3.4 | 44 | 96 | 4.2 |
| | Availability and usability of radio, ETV, computer and Internet. | 349 | 69 | 2.3 | 204 | 86 | 1.9 | 34 | 74 | 1.9 |
| Teaching learning environment | Friendly behavior of teacher | 493 | 95 | 4.2 | 196 | 82 | 3.9 | 31 | 67 | 4 |
| | Individual learning | 398 | 76 | 3.8 | 203 | 85 | 4 | 36 | 78 | 4.2 |
| | Regularity of students | 461 | 88 | 4 | 192 | 81 | 3.88 | 28 | 61 | 3.9 |
| | Punctuality of teachers | 406 | 78 | 3.8 | 187 | 79 | 3.9 | 38 | 83 | 4.1 |
| | Checking of home work | 435 | 83 | 4.03 | 166 | 70 | 3.5 | 27 | 59 | 3 |
| | During course evaluation | 432 | 82 | 3.79 | 231 | 97 | 4.4 | 45 | 98 | 4.5 |
| | After course evaluation | 398 | 76 | 3.9 | 237 | 99 | 4.5 | 45 | 98 | 4.5 |
| | Regular supervision of NFBE schools | 434 | 83 | 4.1 | 194 | 82 | 3.98 | 32 | 70 | 3.4 |
| | Language of course (easy) | 490 | 94 | 4.23 | 180 | 76 | 3.7 | 45 | 98 | 4.5 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Community participation | Campaign through media | 485 | 93 | 1.5 | 198 | 83 | 1.8 | 26 | 52 | 2.4 |
| | Interest of community | 364 | 70 | 3.5 | 151 | 63 | 3.2 | 30 | 65 | 3.5 |
| | Help from eminent persons | 392 | 75 | 3.6 | 183 | 77 | 3.5 | 31 | 67 | 3.5 |
| | Organization of motivational campaign | 378 | 73 | 3.4 | 138 | 58 | 3.4 | 26 | 52 | 2.4 |
| | NFE programmes are income generating | 387 | 74 | 3.6 | 164 | 69 | 3.5 | 32 | 70 | 3.58 |

f= frequency of the respondents, %= percentage of the respondents and $\bar{x}$ = mean value of the responses. To derive the mean score, scale value for this table was SA= 5, A= 4, UNC= 3, DA= 2 and SDA= 1

It is evident from table 5 that about 70% ( students 67%, teachers 73% and administrators 74%) of the respondents are disagreed with the statement that physical facilities like electricity, toilets, classrooms and furniture are available at the NFBE schools ( mean score is respectively 2.49, 2.2 and 2). Majority of the students, teachers and administrators are of the view that black board, charts and pictures are used during teaching learning process in these schools ( mean score is respectively 4.2, 3.4 and 4.2)..Regarding availability and usability of AV Aida and educational technologies like radio, computer and the Internet 90% students 67% teachers and 92% administrators opined that these devices are neither available nor used at these schools ( mean score is respectively 2.3, 1.9 and 1.9).. Dominant majority of the respondents are satisfied with teaching learning process, teaching learning environment, teaching methodologies, regularity of teachers and students, checking of home work, evaluation of students and teachers work, supervision of schools and the language of course as frequency of students, teachers and administrators agreed responses are more than 70% in all the statements of this theme and mean score is also more than 3 in all the statements of this theme as well. Similarly, a dominant majority of the respondents (students, teachers and administrators) opined that community participation is active and positive as about all the statement agreed frequency ratio is more than 70% except disagreement regarding motivational campaign arrangement where negation rate is more than 60% from the respondents.

In open-ended statement regarding problems and issues of NFBE schools 99% students opine that books were not provided well in tine, 87% are of the view that classrooms were not available and there was no arrangement of co-curricular activities.

Insufficient remuneration is the major problem for teachers as 89% opine their stipend is not sufficient. Teachers are not briefed about their duties and responsibilities, and orientation workshops are not arranged for them (87%). 7% opined that non availability of class rooms is another problem for them. Administrators describe a lack of field staff (54%), insufficient remuneration of teachers (74%) and inadequate resources (84%) were major problem in this literacy campaign for them.

For the improvement of quality of NFBE schools (95%) students suggested that free note books and writing material should be given to them. &1% they should be given incentives and 98% opined that games should be arranged for them. 89% teachers suggested their remuneration should be revised and enhanced, and orientation meetings should be conducted for them. Further, they suggested (91%) literacy campaign should be run media for the improvement of quality in these schools. Administrators (84%) suggested field staff should be appointed for enhancing the quality of these NFBE schools. Further, 74% suggested an increase in teachers' remuneration and resources for the improvement of quality of these schools.

## RESULTS

Main results of the study are given below:

- NFBE schools are playing a dynamic role in national development by uplifting socio-economic status of masses, especially in the rural areas.
- NBFE schools are also playing a vital role in discriminating gender disparity by providing equal opportunities of education to male and the female as well.
- Virtually, all teachers and students of these NBFE schools were culturally restricted female.
- Teachers' remuneration was insufficient. It may be increased and students may also be provided incentives.
- Motivational campaigns were not conducted to create awareness and mobilization of community for maximum participation in the NBFE schools. Hence, motivational campaigns may be conducted through media.
- Students were provided free textbooks but not free notebooks and other writing material. Therefore, students may be provided free notebooks and other writing material.
- Provision of budget was insufficient hence; budget may be increased and used appropriately.
- The GOs and NGOs can run NFBE programmes more effectively. Therefore, the NFBE schools may run through the collaboration of GOs and NGOs.
- Timings of NFBE schools were unsuitable. Timing of the NFBE Schools may be increased and adjusted in accordance with students' availability.
- Syllabus of the NFBE was informative, instructing and illustrated with diagrams.
- The language of NFBE courses was easy and syllabus of the NFBE was informative, instructing and illustrated with diagrams.
- Physical Facilities (electricity furniture, classrooms and toilets) may be provided in NFBE schools.
- Teachers may be briefed about the objectives of the course in orientations' sessions and they may be provided opportunities of refresher courses.
- All the schools of NFBE may be equipped with latest teaching aids and teachers may be provided the training to use these aids.
- Locally, community may be involved in mobilizing the local resources.
- Follow up programmes may be started for literacy graduates.

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