HAIGAZIAN UNIVERSITY

E-LEARNING EDUCATION: AN EXPLORATORY STUDY ON HIGH SCHOOL STUDENTS' ATTITUDES AND EDUCATIONAL USE OF THE INTERNET

by

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ABSTRACT

The current study explored, within E-Learning education, the possible impact of Internet-based learning on high school students' attitudinal and E-educational use of the Internet. It investigated the context of E-Learning education in Lebanese educational institutions. It explored the practices of Lebanese postmodern generation in relation to the Internet and their tendency towards a New Value System. The study compared students' attitudes towards the use of the Internet with teachers' attitudes towards the Internet, as perceived by students. It also pointed at teachers' impact on students' integration of E-Learning in educational settings. The instrument used to collect the data was a 34-item questionnaire that was answered by 232 English high school students of eleventh grade. Results of frequency tests on Internet accessibility and connectivity is supported, so as the frequency tests of the Practices of the New Value System of postmodern generation. Although the correlation tests run for students' and teachers' attitudes showed no positive relation, it supported the current research considerably. A t-test is run to describe teachers' attitudes and their Internet-based integration. It also was found supported.

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CHAPTER ONE

INTRODUCTION

SPECIFICATION OF THE PROBLEM AND ITS BACKGROUND

Electronic learning, E-learning, has been a major concern of educational research within the past few decades. Although researchers and theorists agree that the explosion of powerful technologies plays an important role in the lives of postmodern generation, there is still a lot to be done concerning its integration in education. Some of the reasons refer to the socio-cultural factors; such as cultural values, economics and location, including connectivity and availability; some others refer to personological factors related to student's attitudes and gender, teacher's gender, attitudes, teaching philosophy and teaching styles. Educational research has reflected upon the impact of E-Learning technologies, from different perspectives, with a focus on students' educational and attitudinal outcomes. The results of available research prove that technology, mainly E-Learning, is a determining factor in postmodern education. Research also supports the claim of the new power structure and knowledge, technology and the values of postmodern youth, and technology and educators in relation to education. This study is an attempt to explore, within Lebanese educational high school requirements, the relationship

between E-learning and its impact on students' educational and attitudinal outcomes. For this purpose, the first chapter will look upon E-Learning from the macrolevel to provide a historical background on postmodern era and the new power structure in relation to education, define E-Learning, and explain educational and cultural values of postmodern youth where New Practices seem to emerge among learners. On the microlevel, chapter one will give an account on E-Learning and the educational system in Lebanon, the government and infrastructure. Chapter two provides a Review of the Literature of E-Learning experimentation in the field. It includes some perspectives of E-Learning of postmodern figures in the field of education. Chapter three is devoted to Methodology; the sampling, procedure, the limitation, instrument and testing of the hypotheses; Chapter four presents the current study results and interpretation. Finally, chapter five provides discussions, conclusions, and recommendations for future research. Appendix A, B, C, and D provide a sample of the letters sent to the principals and students, a sample of the questionnaire used to collect data, some definitions of E-Learning technical terms used in the current study, and statistical tables.

BRIEF HISTORICAL BACKGROUND

Since postmodern era has reshaped the practices and values of its young generation and redefined education and power relations, it is crucial to have a brief historical overview on postmodernism where the Internet has emerged. Simpson (2000), Marshall (2000), Gane (2002), Furman (1998) and Lyotard (1997) describe the movement as a weblike, complex, diverse and at many

times frustrating in nature era. Postmodernism has shaped and restructured many cultural domains such as "music, fiction, film, drama, architecture, sociology, and visual arts." If it is taken as a movement which is beyond, against or after the modern period, it is placing it within the modern order of linear time and, accordingly, binding it to an implicit theme of "metanarratives of historical progress or evolution." Though diverse, technocratic, and multifaceted Furman (1998) referring to Slattery, reports that postmodernism ranges between the artistic, "eclectic and allegorical" to the philosophical which "exposes and transgresses the limitations of modernity by embracing the experimental moment concealed within this order" (Gane, 2002; p84). Accordingly, any postmodern work reveals a rejection of rationalism, realism, foundationalism, and structuralism (Marshall, 2000 and Simpson, 2000).

From a postmodern educational objective and in terms of structuralism, the association of power and knowledge, Simpson (2000) states that postmodern era is composed of a different power structure than that of "class and language" which historically have been the basic elements for educational change and hierarchy. Simpson reads Derrida, one of the prominent figures of postmodernism, as complaining about the vertical structure of knowledge that tends to frustrate all valid frontiers of inquiry and counts the present era with strong poles of pressure where technology is a determining variable. Foucault's definition of power has little to do with those of traditional systematic class influence and deems that point debatable since sexuality; commercialized

interest, popular attraction and, of course, the World Wide Web are powerful forces.

Also from an educational perspective, Furman (1998) reflects more positively on structure of powers that make up postmodern culture and report that the major contributor of influence is "the rapid advancement and globalization of technology" (p305). On one hand, it attempts to recreate sameness as the basis of community and increases diversity. On the other, it offers a new metaphor for community that represents an interconnected web of persons across cultures and a new center of community acceptance of otherness and cooperation within differences. To Sarup (1993) postmodernism is not a development of a higher structure of traditional order of knowledge and thinking, but it is going beyond these disputes for they are neither necessary nor useful. He continues, postmodernism is dynamic and functional. Learners learn things not to know them but to use that knowledge. Knowledge today is skills and training centered rather than idealism and humanitarianism education centered.

Giroux (2001) believes that education has to tend to a "different power structure, knowledge, ethics and work." The potency of mass media, with its powerful machinery of demonstration and directive force of meaning, and high tech within a click of a mouse accessible world wide are issues of postmodern nature which cannot be ignored anymore and which are shaping new methods and educational spheres.

E-LEARNING DEFINED

The Educational environment has been, diligently, trying to legitimize this clickable diverse world. Since it does not exist as an academic discipline in canonical books, a group of scientific investigators, advocated by the National Research Council and National Academy of Science in the United Sates are constructing a science of E-Learning. This science depends on the evidence of core replicated findings, the theory of a research based modes of how people learn in an electronic environment and the applications where theory-based principles for the design and execution of E-Learning is implemented (Mayer 2003).

As defined by Huffaker (2003) E-Learning can be understood as the use of Network technologies to foster an anytime-anywhere transfer of information. E-Learning approach is student-centered, challenging, and multi-faceted. In The Psychology of E-Learning, Yan (2003) considers E-learning in the context of history of the human learning and defines it as the "Third learning system that uses various electronic techniques as its primary medium for learning." The other two learning systems are S-learning that uses speech as its primary medium and P-learning which uses paper as its major learning medium. He mentions that E-Learning involves *various technologies*; such as cable, palm-held computers, and the Internet; *various forms*; virtual learning, online learning, distance learning, and Web-based learning; and *various components*; e-book, e-dictionary, e-library, e-classroom, e-assessment, e-homework, and e-management.

The Internet, often used as a term to describe the World Wide Web, is an international collection of computer network of networks; it includes E-government networks, E-business networks, E-education networks, and E-society networks; it may be categorized as asynchronous computer-mediated communication, synchronous computer-mediated communication, and hypertext. The World Wide Web is just one part of this multi-faceted communication medium which takes in anything from simple text communication by email, to videoconferencing and a hundred of other different ways of communication by means of an Internet connection. Accordingly, people use the Internet to communicate with one another, to find and offer information, to exchange computer files, to advertise their services, sell products, manage their finance, and send and receive government services. The Internet is not a single application providing a single service to a single group of people. It is a highly affluent and diverse source of information that even if we narrow our focus to educational applications, the internet still provides a wide variety of opportunities (Grabe, 2000; Dudeney, 2000; Warschauer, 2000).

CULTURAL VALUES OF POSTMODERN YOUTH

Borgmann (1984) argues that in a proto-electronic era of an electronic future, P-learning system is less and less in the interest of the new generation. P-learning which formerly engaged learners with important activities, that required skills and gave life order, dignity and meaning, is weighed down by a

more enchanting, E-Learning collection of option-rich multimedia packages and more flexible tools. He continues that the virtual environments or simulations that digital devices make possible provide superior updates to P-Learning texts, lectures, lessons, and exams. Borgmann believes learners are increasingly captivated and infatuated with hyperreality which he considers, "superior to actual reality" (184).

Giroux (2001), Sackman (1999), Drucker (1994), Handlin (1959), Dewey (1964), Borgman (1999), and Verbeek (2000) maintain that postmodern youth are more drawn by the power of new emerging audio, visual, and electronically mediated forms of knowledge. The information high way and media resources make up postmodern youth new desires, and mode of association, which wonder between and within multiple electronic borders and spaces. P-learning tradition, where a lot is done for the accumulation of facts and little for their organization, is not anymore the solitary legitimate academic tool for postmodern youth to construct and affirm their identity. P-Learning system is required to meet the change of global knowledge information age where the concept of school, teacher and learner are understood in the light of digital world. The new age educational values are determined by their practical use. E-Learning technologies are central for creating such practical involvement between students and their environment. Youth today are in favor of education which engage them with activities relevant to their lives and which is not a source of boredom. E-Learning may enhance, amplify, and evoke new forms of engagement between learners and real life situations.

Levin (2002), thinks that the impact of E-Learning on school student is multiple and rich. Students could complete their school work more quickly. Their paper and projects are more up-to-date. They enjoy navigating and learning subjects in depth on the Internet. Students describe manifold education related uses of the Internet such as communicating with online teachers and online study groups. They share tips of favorite educational web sites that fit their assignment. It is worth noting that the way students think about the Internet in relation to their schooling is closely related to the activities they do in their everyday school life. As Levin continues, the Internet is student's 'virtual text book and library,' 'virtual tutor,' 'virtual study group,' 'virtual counselor,' 'virtual locker, back pack and note book." Jean Baudrillard, another postmodern theorist, says that in postmodern society there are no originals, only copies or what he calls "simulacra." A version of Baudrillard's "simulacrum" would be the concept of virtual reality, a reality created by simulation, for which there is no original. He says, "We have now moved into an epoch...where truth is entirely a product of consensus values, and where science itself is just the name we attach to certain modes of explanation" (Flax, 1990; p 169).

E-LEARNING AND EDUCATION

According to Kouki (1999) and Grabe (2000), researchers and educators have attempted at categorizing the possible roles of the Internet tools in education. They created schemes based on content areas (language arts and science), grade levels (elementary and secondary), or categories of software (web browsers, email, FTP). They provide three basic types of tools. The first is tools

for communication, Email, Mailing lists or listserv, Newsgroups, Chatting, and videoconferencing. Such tools allow widely dispersed people to keep in touch, share experience, and communicate with peers or teachers. It can be synchronous when sending and receiving take place instantly (interactive); it can be asynchronous when a message is sent at one time and received at a later time (non-interactive). The second is tools for Inquiry. The term inquiry involves finding information appropriate to a task, working to understand the information resources and how they relate to the task, and applying this understanding in a productive way. The World Wide Web, File Transfer Protocol, and Streaming Audio and Video are major tools for inquiry. Finally, the third is tools for construction. In it students turn their understanding into a constructive product. They could design web pages which incorporate written documents, pictures, video, and sound links to reference materials to produce more meaningful learning activities.

THE GOVERNMENT AND E-LEARNING

The Lebanese Education system is one of the most advanced and high quality systems in the Arab world (UNDP, 1998). "The Restructuring of the Lebanese Education System" has considerably improved the basis of quality education after the level has admittedly become outdated both in the field of study and teaching material. Updating the curricula included important innovations such as objective-based teaching, competency-based evaluation, teaching technology and computer, and, most importantly, modernization of content. This reform was necessary, among other objectives, to establish a link between

formal pre-university education and present day education, economic, and social requirements; accordingly, it is a major step in the right direction. Since integrating youth in society is a major learning objective, accessibility of education and its relevance to market demands is an essential variable in the process (UNDP, 1998; MNEYS, 1995).

Responding to the demands of the century of information communication and technology, the ministry goes further and states in (decree no 10227 Date: 8th of May 1997 amendment no 28 part 15) that by the end of the secondary cycle students should be able to discuss the role of the Internet in today's world of communication, list the most common Internet applications and discuss their usage, and use Internet browsing (file transfer, and research techniques) facilities, thus giving way to more space for E-Learning knowledge and implementation (Official Gazette, 1997).

E-LEARNING INFRASTRUCTURE

There are seven accredited, Internet-service providers (ISPs) located in the Beirut area. As reported by Lewis (2004), ESCWA (2003a), UNDP (2002), and Zoghaib, (2005), Internet dial-up subscribers in Lebanon range between 65,000 and 80,000 subscribers whereas the estimated number of Internet users were 262,500 in 2001 and expected to surge to 804,000 by the end to 2005. The majority of users are still in the private sectors, mainly business, 63 %, followed by private schools and universities; no number is provided. There

are fifteen educational institution that are legally connected to (**ISP**s) through microwave data providers. Lewis reports that Inmarsat reported in May 2003 having set up Internet access via satellite for two rural schools using Regional Broadband Global Area Network (BGAN) satellite **modem**. The majority of the schools are illegally connected via dial-up connection system provided by individual contractors in Beirut, North of Lebanon, South, Mount Lebanon, and the Beckaa valley. In late-2002 **Wireless broadband** were provided. GlobalCom Data Service contracted Alcatel to supply a nationwide Local Multipoint Distribution Services (**LMDS**) solution. The 26GHz network roll out already covered Beirut and its suburbs and was to be extended to Tripoli and the Jounieh regions. **WiFi** hotspots have been installed in the two Intercontinental Hotels, Phoenicia, and Le Vendome, and in Virgin Megastore.

Since most of the Internet provided in pubic and private sectors, a significant contrast is revealed in the country representing a "digital divide" between private and public sectors. However, realizing the importance of introducing information communication technology in education, the government has, since the early 1990s, mostly, modified the infrastructure of work and communication systems and has provided some services to educational institutions.

Though there is a lot more to be done, the present **I**nformation **C**ommunication **T**echnology (ICT) paved the way to a number of educational initiatives to be taken at the public institutional level and that are were

intended to be currently underway. The first is the School Net project launcher in public schools in 2000. The second is the Lebanese University student Information system (SIS) and Wide Area Network (**WAN**). Both projects highlight online communication and collaboration by making use of audiovisual conferencing facilities, online multilingual references and encyclopedia, and distance learning. In 1998 UNESCO supported a partnership programme entitled Upgrading Science and Engineering Education which aims at modernizing university teaching in Arab communities. Lebanon signed an agreement in 1999 with Euro-Mediterranean Information Society. It aims to reduce region's information and technology gap and encourage a network of Mediterranean Society Focal Points in five key sectors where applied education is a central division. The Internet connectivity will boost the development of the Internet and also create a high-**bandwidth** ring around the Mediterranean to transport co-operative applications. The development of interactive communication systems, web sites, and electronic material in educational institution is of vital importance in Lebanon. It will contribute to bringing education to international standards (UNDP, 2002; ESCWA, 2003b).

RATIONALE

Provided with an orphan government decree which, as mentioned earlier, requires all secondary public and private students, regardless of their socioeconomic status, to use Internet browsing "inquiry tools." With very little reported data on E-Leaning in Lebanese educational institutions and little information on the science of E-Learning in an era of rapid technological

change, this makes the current study a challenge. Does the Lebanese educational system fall under the umbrella of twenty first century postmodernism, where school is not the only legitimate site for knowledge? Do Lebanese youth have postmodern practices and values, where Internet is a key factor? Is Internet a source of communication, entertainment, and information to students? What is students' attitude towards E-learning? Do educators influence students' attitudes towards E-Learning? Do teachers use research, browsing tools for educational purposes? Are educators motivated to use the information high way for their classes? All these questions provide a good reason to explore E-Learning environment and provide data for the field of education.

Most of the research conducted in Lebanon is computer-based learning in both university and high school institutions. Few individual attempts were done in a limited educational context to provide some data for article thesis on the Internet. A recent, graduate project was proposed on e-learning partnership between private sectors, governmental and nongovernmental institutions. Computer and banking was a major area of research for some graduate students in the business departments.

Among all available research in the field, this study is probably the first to address Internet-based learning in Lebanese Educational institutions. It aims at exploring students' attitudes and practices in relation to Internet. It takes into account the possibility of having or not a postmodern generation. It counts for

the possible different socio-economic factors, which upon first investigation, and according to data provided from UNDP (2002) and Zoghaib (2005), only a small number (5%) of schools have Internet access. No data is provided about Internet use at homes. It also attempts to ascertain if E-Leaning is assigned by teachers and how does it affect students' E-Learning taking into consideration that no data is provided concerning availability of the Internet in schools to both students and teachers neither in computer labs or libraries nor in teachers' lounges. No data is provided concerning personological factors among students and teachers concerning their use of E-Learning. Are teachers motivated to use Internet based education? Are they using E- research and browsing for their classes? Do students like using web-based material? How are they using it?

With the above in mind, this paper is an attempt to provide some data about Lebanese high school students, who by law should discuss the role of the Internet, use its browsing techniques and be able to integrate it in education. How other variables such as accessibility of the Internet, frequency of online use, postmodern Practices and the New Value System influence students' learning outcomes? What is the likely attitude of students towards the Internet? What is the likely attitude of teachers as perceived by students? How do teachers integrate online material in the curriculum? We hope to get a clearer picture of the extent of influence Internet- based education have or may, or may not have on students educational outcomes.

HYPOTHESES

Four hypotheses were proposed aiming at providing answers to the above mentioned questions. The first hypothesis points at the availability and accessibility of the Internet:

H1 There is a positive relationship between Internet availability and students' frequency of online use.

The next hypothesis tends to signify the Practices of the New Value System (PNVS) of the present generation as explained by Lenhart (2001) and Levin (2002). Thus:

H2 The Internet has led to New Practices among learners in terms of

A. Using the Internet as means of communication **(E-Communication)**

B. Using the Internet as means of entertainment **(E-Entertainment)**

C. Using the Internet as means of information **(E-Information)**

The following hypothesis is derived from Duggan (2001) study ATEUI "Attitude towards Educational Use of the Internet."

H3 Students have a positive attitude towards Internet-based learning compared to traditional learning

The final hypothesis is related to Becker (1998), USDE (2000), and Volery (2001) concerning teachers' attitudes towards technology and teachers' impact on students' E-education.

H4 There is a positive correlation between students' attitudes towards the Internet and teachers' attitudes towards the internet as perceived by students.

DEFINITION OF VARIABLES

Internet Availability (IA): As reported by USDE (2000) the inevitability of Internet availability for instructional use is a major factor for its integration in the curriculum.

- **Availability**: Computer and Internet access at home, school (in computer lab or library) and/or Internet café is used as factors which determine online use.

The Practices of the New Value System (PNVS): As explained by Borgman (1999) and Verbeek (2000), the new generation is more drawn into electronically mediated sites of knowledge. Their desires and methods of association are formulated by the information high way (Internet). Thus, the Practices of the New Value System of the millennium as intended by Lenhart (2001) and Levin (2002) consider online communication, online entertainment, and online information as major factors in the criteria, hence:

- **E-Communication (EC)**: It is online chatting, online making of friends and buddies, talking with families, reading and sending of e-mail and exchanging and/or downloading of school notes.

- **E-Entertainment (EE)**: It is online sending of e-cards and fun pages, online playing of games, downloading or listening to music and other online leisure activities.

- **E-Information (EI)**: It is the Internet- based information which cannot be retrieved other wise. It provides online resources about movies, music, local and worldwide news. It also provides useful online information for educational purposes, school material and/ or study aid.

Students' Attitude (SA): A thirteen-item questions adapted from Duggan (2001) study ATEUI "Attitude Towards Educational Use of the Internet."

- **Students' attitudes (SA)**: Students' educational experience with E-Learning which could either be fun, important and useful tool, and preferable to traditional learning; or otherwise.

Teachers Attitudes (TA) Teachers' attitudes and Integration of Internet in the curriculum, as perceived by students, are related to Becker (1998), USDE (2000), and Volery (2001). They are concerned with teachers' attitudes towards technology, their digital literacy, and their influence on students' **E-Educational outcomes**.

- **Teachers' Internet Integration (TII)**: Teachers' integration of Internet-based material in the curriculum, online assignments Teachers' knowledge of Internet material and their participation in E-Learning literacy sessions. Teachers' manner in using E-Learning.

- **E-Educational Outcome**: It is an up-to-date, Internet-based education which connects students with their environment. Quoting Ramage (2002) review of the literature "the 'No Significant Difference' phenomenon," E-Educational outcome may not show more significant results than P-Learning but its effects do not show knowledge withdrawal.

METHODOLOGY

Since by the end of the secondary cycle students should have browsed Internet information and used it in their education, we considered grade 12 students to be the ideal class choice. However, due to the time needed to prepare this class for the Lebanese government official exams, which is a curriculum condition for students to graduate the secondary cycle, we have taken grade 11 instead, who also make a good sample for our purpose. The students are selected from Private Lebanese English Language High Schools of middle socio-economic status based on tuition fees which range from 2,000,000 LL for middle-Low school and 500,000,000 LL/ year for middle-high SES. The instrument used to collect data is a 34-item questionnaire, which the subjects were asked to complete. It should be kept in mind that for the reasons mentioned earlier part of the current research remains exploratory in nature and the associated data is necessarily descriptive.

SIGNIFICANCE OF THE STUDY

The focus of the current study is to explore the possible impact of Internet based learning on students' attitudinal and E-educational outcomes in grade 11 of Lebanese English Language high schools students. The finding will provide some information about the context of E-Learning education in Lebanese educational institutions, about students' Practices and New Values in relation to E-Learning, and about teachers' impact on students' integration of E-Learning in educational settings.

The results will hopefully:

- Provide some data on Lebanese E-Learning environment in postmodern era
- Provide some data about the role Internet plays in students' daily lives
- Provide some data on the impact of Internet on students' attitudes and E-learning outcomes
- Provide some data to the extent teachers Integrate Internet-based material
- Motivate teachers to adopt new methods of instructional tools to enhance their teaching and students' educational outcomes.
- Provide some data for more research on integrating contemporary tools in learning environment
- Pave the way for more research in this field.

CHAPTER TWO

REVIEW OF THE LITERATURE

E-EDUCATION AND THE NEW VALUE SYSTEM

Education in postmodernism is challenged to broaden its terms and parameters to become relevant to constantly changing modes of knowledge (Giroux, 2001). It is challenged to overcome "authoritarian and alienating intellectualism" that overcomes its subjects. It is required to prevail over man's misconception of the world "which is not something to be described with deceptive words" (Freire, 1990). It is vital to permit the mechanical involvement with education, but not the mechanical and formal application of education for it renders it boring and tedious (Dewey, 1939).

E-LEARNING AND THE SHIFTING MODES OF KNOWLEDGE

Giroux (2001) declares that education in postmodern era needs to be restructured in the sense that presents the minimum relevancy between learners' environment and their educational experience. This education does not require a new knowledge but a content and context relevant to the knowledge produced in a variety of sites. Dewey (1939) also believes that the learning experience which alienates learners form their lives is an oppressive and dry experience rather than educating.

Lenhart (2001) reports that not only Internet-based education plays and important role in students' lives, but it also plays an important role in their school and college experience. The techno-communication, online talking to buddies, has become the 'information-age' way for teens to hang out and beat back boredom. A fifth of online teens say that instant messaging (IM) is the main way they deal with friends from inside or outside their community, involve three or more buddies in a session, and tell unpleasant things for starting and ending relationships. Many teens enjoy playing different online identities. They pretend to be different people and give and take false information. Twenty six percent say the internet helps them fill the gap of knowledge they have about delicate information and that are hard to talk about with people. Most teenage do many activities at the same time, a *17-year-old boy say, "I multi-task every single second I am online. At this very moment, I am watching TV, checking my email every two minutes, reading a newsgroup about who shot JFK, burning some music to a CD and writing this message."* (p 10) (Lenhart, 2001). He also reports that the Internet had become an increasingly important feature of the learning environment for teenagers. In a survey of 754 youth ages 12-17, ninety four percent use E-Learning system for school research and seventy eight percent believe that the Internet is a major source for their more recent school projects and reports. Thirty four of online teens have downloaded an online study aid. Fifty percent of online teens report using Web sites that had been set up specifically for their school or for a particular class. Seventeen percent of online teens have created a web page for a school project. Jones (2002) says that Internet use is a staple of college students' educational

experiences. They use the Internet to communicate with professors and classmates, to do research, and to access library materials. For most college students the Internet is a functional tool, one that has greatly changed the way they interact with others and with information as they go about their studies.

E-LEARNING AND EDUCATIONAL OUTCOMES

Internet- based education improves students' educational performance, achievement, and attitudes. In Iowa State University Allen and Thompson (1994) found that fifth grade students writing to distant readers via E-Learning network wrote better quality compositions than students writing for an audience of just their educators. The writing samples of the distant audience group received statistically higher holistic ratings of writing quality and had statistically higher word counts than the writing samples of the teacher audience group. Nix (1998) has studied fourth grade students who were assigned specific topics and content for e-mail sent every other week to a "keypal" at another school. For one of their assignments, they were instructed to write a persuasive essay to their keypal on whether families watch too much television. Students scored significantly higher in audience awareness and argumentation than a control group at another school who did not use e-mail and wrote their compositions by hand for a teacher audience. Subsequently, after three months of using e-mail, students were assigned to write a persuasive essay to an imagined parent audience about bicycling with one friend versus hiking with another. Even without the stimulus of writing to a real

audience, students who had used e-mail still scored significantly higher overall, were more aware of their audience, were more organized and produced lengthier texts than students who had not used e-mail. It can be noted that there is a strong positive effect of E-Learning, especially those interacting with an authentic audience and using technology in an educational context. The effect appears to transfer to subsequent handwritten essays.

In another study of university students, Marttunen (1997) found that e-mailing was "a feasible study tool in practicing academic argumentation. Volunteers in sociology of education course took part in six week e-mail discussions of assigned texts with a tutor selecting discussion topics and giving regular feedback. After analysis of E-learning experiment results showed that the "level of argumentation improved during the experiment" for students practicing online offline argumentation.

Roy and Taylor (2003) examined how students browse and learn specific information from online and offline resources. He found that students' personal involvement and performance was better on the Internet. Bain et, al. (2000) conducted a study to evaluate the integration of network hypertext discussion. The results indicated that there are statistically significant improvements in students' achievement when HTD was part of the program.

A meta-analysis by Cavanaugh (2001) summarized the results of 19 studies of distance education in grades three through twelve that used E-Learning telecommunication. Fourteen of the nineteen studies (79%) had a positive effect size for online education. Cavanaugh found that E-Learning education

can be an effective educational tool. In an evaluation of National Geographic (NGS) kids Network telecommunication based activities, Weir (1992) found that fifth graders demonstrated significant increase in organizing and using graphs, showed better data interpretation skills and demonstrated significant improvement in place knowledge and ability to identify map locations and "understandably" compared to those who have not used the network. According to Lal Vijendra's (2000) review of literature in Australia and other parts of the world, students' achievement is positively influenced when school instruction is appropriately integrated with web-based material. In another review of literature, Ramage (2002) found a multitude of studies on the effectiveness of online instruction compared with the traditional classroom, focusing on measurable student outcomes. Of these studies several have focused on end-of-course grades citing no differences to their traditional counterparts. One notable study attempted to remove perceived instructor-bias by blind-scoring tests in a graduate-level online/traditional course, finding, "...average score for the online class was 5 points (5%) higher than for the on campus class." Interestingly, the author found no studies that exposed *lower* grades on test scores of online students compared to traditional students.

E-LEARNING AND STUDENTS' ATTITUDES

Drucker (1994) and Sackman (1999) investigated students' preference of E-Learning to P-learning methods. Research indicates that students prefer Internet-based learning to traditional learning environments. They believe it

can positively affect their attitudes towards learning, in general. Kachala (2000) reports Spaulding and Lake who found that students were more motivated to write to other students across the United States and to students in Moscow City (MAGI Educational services, inc 1992) compared to writing just to their classmates. In another study, findings showed that students who participated in "student generated projects such as surveys, polls, articles, and analysis and creative writing in a web-based project spend significantly more time than (non-project) student in discussing international events and political or social issues.

Kachala (2000) also reports Koszalska who noticed that middle school students' perception of science was significantly more positive in classrooms that used Internet resources at least five times a year in their science teaching. Use of Internet resource was also a significant predicator of interest in science careers for girls. Chiu (1996) found that tenth grade students in Taiwan utilizing network resources to complete a written science report demonstrated significantly more positive attitudes toward both school science and the use of computers than students given the same assignment but who did not use the network.

Agarwal and Day (1998) found that students who used the Internet as a resource in a graduate microeconomics course improved their attitude toward economic significantly more than students in another section taught by the same professor who did not use the Internet. Smith (1999) investigated university students' attitudes after completing a course that incorporated a

computer-based telecommunication network. The study concluded a considerable relevance between the purpose of the network use, which is simplifying communication and submission of assignment, and the learning outcome. Nearly three out of every four students in the network group rated the response time, ease in doing assignments, quantity of feedback, quality of the course and their overall experience as better as or much better than past courses without online interaction.

Ramage (2002) reports that upon review of six studies which examined effectiveness and impact of E-Learning in graduate education, it is inferred that students have higher educational satisfaction. They also have equivalent to conventional or better grade point average. They show higher levels of critical thinking and problem-solving skills, and are more willing to interact with their instructors.

Duggan (2001) in measuring student's attitude towards educational use of the Internet finds that students who keep track of valuable educational sites on the Internet possess a more favorable attitude about its educational use. They enjoy sharing educational information found on the Internet with friends. They would more likely take courses that require Internet use and would stimulate social use of technology. They also satisfy the many tasks of today's education. Mattes (2003) in the online university examined the relationship between student personality and choice of traditional on campus or online college. He

found a complex difference among students. Some are demographic and some are unique character traits, which are not traditional.

E-LEARNING AND EDUCATORS

Educators need to direct students within their world and cultivate their capacity for using advanced technologies, judging what is essential for the exercise of power and responsibility as accountable individuals in society (Giroux, 2001). Educators value is not in depositing into students, where "teachers teach and learners learn." Educators' value is in "increasing the power of [students] minds rather than their possession." They are careful selectors of "equipment, apparatus and other [postmodern] tool which correlates with the total social set up of the situation in which the learner is engaged" (Dewey, 1964).

Becker (1998) conducted a survey of 441 teachers at 151 U.S. elementary and secondary schools participating in the National School Network, confederation of organizations involved in fostering school Internet use through different E-Learning tools. He found that teachers' digital skills and open mindedness make a positive difference on class outcomes. Teachers were more willing to discuss Internet-based material with students and allow themselves to be taught by students. They also could orchestrate multiple simultaneous activities occurring during class time. They were able to assign e-homework to be reached form specific web sites. They could give students greater choice in their tasks, materials and resources.

Volery (2001) explains that educators played a central role in the effectiveness of E-Learning delivery. He maintains that teachers' attitude towards technology, teaching styles, and control of teaching in E-Learning environment are important characteristics that influence students' educational experience. Ohlund and Ho Yo (2000) find that the use of asynchronous (mailing lists) and synchronous (chat sessions) Internet-based communication influence teachers' attitude towards technology. Their interaction in a web-based environment adds and fill gaps in their web-based knowledge and reorganizes knowledge structures. During Internet-based communication, educators are exposed to new strategies, technologies, and ways of thinking which positively enhances classroom delivery. In another study, Riccomini (2000) notices that teachers' digital literacy and proper alignment with educational objectives can foster better understanding and yeild better results. He comments that teachers who provided students with comprehensible and accessible instructions on Internet-based research skills and management improved students' performance than teachers who did not. Fu-Yun-Yu (2003) and Gashner and Snider (2001) concluded that teachers are educational catalysts who promote students learning in a synchronous and asynchronous E-Learning environment.

Yang (2001) studied learning outcomes of WWW resources as instructional tool in English as a Foreign Language (EFL) class. He concluded that appropriate internet-based information have the potential to empower students in well designed language learning environment. It provides an opportunity to enhance students' reading and writing proficiency. Positive learning outcomes

are a good indicator of proper planning and relevant design (Anderson and Reed, 2000).

In a survey of 250 teachers in 1999, "... 85% of faculty, with experience in teaching the same course in traditional and E-Learning environment, felt that student learning outcomes in E-Learning education were *comparable* or better to those found in conventional classrooms. They expressed concerns related to the promotion and encouragement of teacher-student interaction (Ramage, 2002).

LaMaster (1996) studied email communications among three groups of preservice physical education teachers. These university students email to post questions related to their teaching and to respond to each other's questions. Typically, students described how they had taught a lesson and asked for alternative suggestions form their peers. Other queries were related to student behavior, discipline and management. As a result of peer feedback, these teachers intraining were able to make changes to their upcoming teaching plans. They also experienced a significant increase in their perceived self-efficacy toward using email.

CEO (2001), USDE (2001), and USDE (2000) in *Teacher's Tools for the 21st Century,* Report that socio-cultural and personological factors are important factors that may contribute or impede E-Learning environments. Lack of computer availability and Internet connectivity, lack of release time as some teachers indicate, inadequate training opportunities and school technical support are major obstacles for integrating E-Learning in classroom activities

and thus hampering e-educational outcomes. It is also noticed that teachers with fewer years of experience are more motivated about assigning school work with Internet use than teachers with ten years and more of experience. An average of seventy one percent, as the reports continue, of new inservice teachers gather web-information. Six percent access model lesson plans and seven percent access research and methods of teaching online. Eight percent create multimedia presentation and twenty three communicate via e-mail with colleagues, parents and students. The impact of trained teachers on learning outcomes is a key to create dynamic digital learning environments. The reports claim that students with technologically literate teachers score higher every time.

Postmodern educators should tend to the youth who are more programmed into fragmented experience and intellectual transitioning among technological-based education, media, popular culture, and new social and political changes. They need to address students' contemporary desires and new modes of online communication, which with time may lead students into an increased instability and shiftiness of character (Giroux, 2001). Educators need to understand that postmodern individuals are marked with loss of faith and their indeterminacy of future justifies their living in the immediacy of the experience regardless of its quality; whether it is online or offline experience and it should be an educative experience directed by knowledgeable educators. Learners are taking up the language of "gangsta rap." In their oversized fashionable clothing they integrate forms of resistance, style, and imitation. Much of the music they like which replace older forms of textualities marks the body as a site of pleasure.

Giroux calls educators for regarding how different identities among youth are being produced in spheres generally ignored by them and the educational institutions they serve. Educators deliberate planning and responsible sharing in molding the personalities and characters of learners is an ethical, educational demand.

Marshall (2000) quotes Parker who suggests, "The postmodern [education] is more style than thing." It is where traditional means and systems, such as S-Learning and P-Learning, "get junked or refashioned to serve new purposes" (120). In postmodern education, educators are examiners, decision makers and powerful leaders. Capper (1998), referring to Foucault, states that educators call into questions the end point in itself. They do not shy away form "non-linear, cyclical, indeterminant, discontinuous, and contingent" change, which is different to another at any other place, class, or country. Their productive rather than repressive power is everywhere "decentralized, plural, complex, and weblike." Their purpose is continuous educational experiences for the sake of generations of learners.

Lyotard (1997) states that in the postmodern era, knowledge is a presentation of reality which is influenced by experiences, identifications, desires, values, attitudes, and other variables of learners.

CHAPTER THREE

METHODOLOGY

SAMPLE

Responding to twenty first century demands, the government decree No 10227 required ALL secondary cycle students; private and public, high and low socioeconomic; to use Internet-based education (file transfer and research techniques) facilities. Few government and non-government projects, as mentioned earlier, provided Internet access to private and public schools. However, no data is provided about the execution or continuation of these projects. The current report aims at exploring the relationship between Internet and student's practices, their attitudes towards the Internet, and teachers' attitudes and integration of E-Learning. It considers available statistical data and institutional obligations in selecting its sample.

According to UNDP (2002) and the Lebanese Statistical Report (2003-2004), there are 16217 high school students distributed over 44 schools in the Beirut area proper. 10213 of high school students are in private schools. 3984 of these students, approximately 3.9%, are in English speaking schools in the same area of Beirut. Due to cost and time constraints a sample of 232

participants, which totals approximately 7% of the number of English high school students in the Beirut area proper, was taken from grade 11 of these schools for a few reasons. First, grade 11 makes a good sample instead of grade 12 who are preparing for their government official examination; and, who apart from having official examinations, a considerable number of these students may drop out of school for various economical and social reasons before the school year ends and before taking their exams. Second, the researcher assumes that throughout the elementary, intermediate, and the 1st two years of secondary cycle, students must have had experience with Internet research for school projects and homework, a fact that may bring better results for the study.

Since using the Internet is a curriculum requirement and research depends partly on school researching and, mostly, on outside of school browsing, accessibility of the Internet *in* and *outside* school is considered a factor in the results. Accordingly, the sample is drawn from middle socioeconomic status schools based on tuition fees which ranged between 2,000,000 L.L. in middle-low socioeconomic schools and 5,000,000 L.L. in middle-high SES schools. The researcher assumes that within middle class boundaries the issue of availability and connectivity may either be made up for at school, at home or at an Internet café. Such a division ensures that the sample is as representative as possible in the sense that it has a specific social level which may ensure availability same age group and same educational requirements. The classification of the sampling tends to provide a smaller sampling error than

unclassified and hence the most information for the available research. Two schools from each classification were randomly chosen. The selection of the primary sampling units (PSU) is taking into account the school differing size, since the increases in the mean square error of sampling estimates may occur.

PROCEDURE

The questionnaire and its administrating mode were finalized after a pilot study. To ascertain that the language used in the questionnaire is appropriate and the organization of the questions is logical, the researcher conducted a pilot study two weeks before the actual administration of the instrument and accordingly made some changes.

Conforming to the same age group and grade level and to avoid any misunderstanding, the pilot study was run on grade 11 of one of the English high schools in the Beirut area. Since some students struggled with technical terms, the researcher provided necessary explanation and later rephrased some questions to fit the Lebanese educational environment and removed few redundant ones.

After the completion of the pilot study, letters were sent to high school principals explaining the nature of the study. Following their approval, the researcher visited each class in person and requested grade 11 students to complete the questionnaire. Prior to the administration of the questionnaire,

the researcher provided students with meanings of technical words. This was found to be necessary because during the pilot study as mentioned earlier, some of the subjects were unfamiliar with technical words found in the questionnaire. Students were also provided with explanations on question 5 since their written response is considered. The administration of the questionnaire lasted 10 minutes.

LIMITATION

One of the major limitations of this study is that E-Learning is a recent field of experimentation which is not yet considered a science. Though it may extend back to approximately five years, only until 2003 some recorded data by Richard Mayer (2003) appeared. Most of the research conducted stress on the positive outcome of Internet in relation to education. The rest of the research available, if it does not show significant results show no set backs on learners educational outcomes.

A second limitation to this research is the lack of data about Internet and education in the Lebanese educational institutions which provides information for comparative purposes or allows for a deeper analysis of the information gathered. Such a fact complicates conducting a research to measure the educational performance or achievement of students through writing to distant readers, for instance. It also prevents testing if e-mail, one of the Internet usages, could increase students' level of argumentation similar to the study

conducted by Marttunen (1997). It is also difficult to measure how students learn online information by browsing the web within a classroom atmosphere as Roy's and Taylor's (2003) research indicated. Add to the fact that conducting a reliable research on students' performance and achievement in E-Learning settings requires a time span which can range between a three months and may extend to four years. This perhaps is the most hindering fact to the current research within available Lebanese technological conditions.

A third limitation is the fact that what fits today in the world of technology is liable to change very quickly and the data may only be adequate and reliable within the period of time studied.

Another main limitation of this study is the fact that it relies completely on students' answers. Data collected to measure the extent the Internet plays in students' daily lives and their attitudes towards E-Learning is based completely on students' responses. Similarly, the data collected on teacher's integrating of Internet-based material and teacher's attitudes is collected, solely, from the points of view of students. Regarding students' age group, experience, and environmental and circumstantial pressure, responses may be inaccurate and thus held untrue and call for more research about teachers' attitudes towards technology from the teachers' points of view.

Though Lebanon is small in size, its cultural values, practices, traditions, and economical situations vary greatly form one area to another. So what may be

true in the Beirut area varies considerably from the North, South, and the Beckaa valley. Therefore, due to cost and time constraints the sample may not be as representative since it is made up of 232 students of one grade, instead of three cycles or even middle area level, and it covers only the Beirut area. Findings, which may be true to the area studied, cannot be generalized to all Lebanese educational institutions.

Research conducted provides information to the advantages and disadvantages of using a certain tool for educational purposes. It provides documented data and develops insights for making use of this tool for educational purposes. The fact that there is some information on the Internet as tested and approved as an educational tool and emerging only recently as not yet an acknowledged field is, perhaps, a limitation which hinders in depth study.

INSTRUMENT

The 34 questions, which are found in appendix A, are formulated based on Lenhart (2001,) Levin (2000), Duggan (2001), Becker (1998), Volery (2001) Rogers (2000), and USDE (2000), as mentioned earlier. Since the schools chosen teach English as a first language, the sample was given in English after necessary explanations were provided. The finalized version of the questionnaire was corrected after the pilot study in which 21 grade 11 students participated. Prior to the administration of the pilot study, the researcher discussed the technical meanings of different words for 2-3 minutes and told

students to complete the answers for themselves. The students were given 10 minutes to complete the questionnaire. Most of the students finished on time or a few seconds before time. Since very few students took a minute more for questions 4, 6, and 13 in the pilot study, some of the questions were rephrased. Question 4 "Where do you access Internet at **school**?" was boldfaced in the actual questionnaire to avoid irrelevant answers. Question 6, "How often do you go online?" was rephrased to "How much time do you spend online?" and provided specific hours and a space for other answers in order to show the frequency of time spent online. Question 13 was also manipulated from "Do you read online worldwide news?" to "Do you read online news about events in Lebanon and the world?" While explaining the technical words in the questionnaire the researcher clarified questions 30,31, and 33 to avoid misunderstanding and stressed on the importance of answering all the questions as specifically as possible.

Teachers' Internet Integration (TII) questions are related to Becker (1998), USDE (2000), and Volery (2001). They are concerned with teachers' attitudes towards technology, teachers' digital literacy, and teachers' influence on students' E-outcomes.

The questionnaire was designed to gather information within Lebanese Educational settings about the Internet as an educational tool. The first six questions, taken form Rogers (2000) and USDE (2000), are used for exploring Internet availability among learners and their frequency of online use.

Regarding the Practices of the New Value System (PNVS) it was based on reports from Lenhart (2001) and Levin (2002) which used knowledge (E-Information) frequency of online use, online social interaction (E-Communication), and leisure time for categorization (E-Entertainment) (questions 7-15). Questions 7, 8, and 9 are used for E-Communication data, questions 10, 11, and 12 for E-Entertainment, and 12 through 15 for E-Information results.

Students' Attitude (SA) was extracted from Duggan (2001) 18-item questionnaire ATEUT "Attitudes Towards Educational Use of Internet." The research used 13 questions (16-28) which fit the Lebanese educational and cultural practices to measure the attitudes of learners towards educational use of the Internet. Questions 29 through 34 (excluding 31 and 33 which the researcher has generated) were designed to collect information, from the point of view of the learners, on teachers' integration of Internet-based material in the curriculum are taken form Becker (1998), USDE (2000).

Since there are no available details about educational use of the Internet in Lebanese educational institutions and having a considerable number of limitations, as mentioned earlier, the questionnaire is meant to, mainly, collect data within Lebanese educational boundaries, and hopefully present a preliminary data overview on the postmodern generation and their practices with regards to Internet. Therefore, the reliability and validity are described on frequency tables to show percentages of online use among learners. The

research analyzes the data on students' attitudes towards internet use and runs a correlation test with attitudes towards teachers' integration of online material, as perceived by students. The last five questions about teachers' attitudes and integration of the Internet are measured on a t-test. The results are compared with students' attitudes towards the Internet and their online new practices.

TESTING THE HYPOTHESES

H1 There is a positive relation between Internet availability and students' frequency of online use

Internet availability (IA) is the independent variable which does not only effect students' frequency of online use, but it is also an essential variable in the frequency of the new practices of learners in terms of communication, entertainment and information (CEI). The first three questions related to H1 required 'yes, no' answers where negative responses are given a zero and the positive responses are given a score of one. The fourth question provides three possible options to indicate Internet access within school boundaries. Since the options chosen do not influence the outcome, scores for the 3 options were not counted towards the overall statistical results. Question five, however, was included to provide learners with a third possible access to the Internet, if connectivity does not occur neither at home nor at school, and was measured on a scale of five starting with 5 for the most important is 'home' and 1 for the

least important which is 'others.' The dependent variable for this hypothesis is the frequency of online use in question 6, which in turn becomes an essential variable for the new practices of learners; communication, entertainment, and information; (CEI). It is measured on a scale of seven beginning with 1hr/day, 2hrs/day, 3hrs/day, and 4hrs/day and ending with 5hrs/day, 6hrs/day, and 8hrs/day, the time specified in the blank provided for students to fill if none of the given responses express their actual use of the Internet.

H2 The Internet has led to New Practices among learners in terms of

A. Using the Internet as means of communication

B. Using the Internet as means of entertainment

C. Using the Internet as means of information

There are three important factors for the practices of the New Value System which statistical data show on frequency tables. Compared to the frequency of online use, these factors show significant results. For E-Communication learners spend considerable time measured on a scale of 1-4; Never, Rarely, Sometimes, and Always; sending or reading e-mail, chatting with friends and making new acquaintances. For E-Entertainment learners show in questions 10, 11, 12, also on a scale of 1-4, a mild tendency towards this kind of fun which is translated in some aspects more than others for reasons to be discussed in the next chapter. E-Information factor is not only dependent on availability and frequency of online use, but also on the overall environmental and personological factors of educators as seen by students (Q7-15 and 29-34).

The questions of students' attitudes towards the use of the internet are measured on a 2-point scale of agree or disagree. Then the sum of scores of subjects is correlated with the sum of scores on students' perception about teachers' attitudes and integration of online use in the curriculum. Questions 30, 31, and 33 are measured on a 3-point scale 1-3; Never, Sometimes, Always.

Question 29 which is a 'yes,' 'no' answer is measured with a t-test along with questions 30 through 34 on a 3-point scale of Never, Sometimes, and Always. Some of the students answered "I don't know" for questions 33 and 34. So the proportion of positive and negative responses of question 29 in relation to these questions will be explained in details at the end of the fourth chapter since they require a different dimension of measurement and, accordingly, is inadequate to be measured on a t-test scale with 3-point scale.

For the statistical computation of frequency tests, correlation, t-test, and cross tabs version 13 of the Statistical Package for the Social Sciences (SPSS) is used.

CHAPTER FOUR

RESULTS AND INTERPRETATIONS

Before testing the hypotheses and to avoid any incorrect entries, descriptive statistics are run for all the variables. All the questions from 1-34 were answered and no missing data is found. Then, tests are run to check correlation between the frequency of online use and Internet accessibility; tests for the percentages of New Practices of students are run, each practice separately, E-Communication, E-Entertainment, and E-Information. Then, based on the scores students get on the total average of questions 7-15, they are grouped into five different groups; the occasional, light, moderate, heavy, and no Internet users. Students' attitudes towards the Internet are described on a frequency test in comparison with their attitudes towards traditional learning.

A correlation test is run between students' attitudes towards Internet and teachers' attitudes towards Internet, as perceived by students, and its integration in the curriculum. A t-test is run to show the mean, standard deviation, and standard error of students' responses of question 29 through 34. Tables of all descriptive statistical data are provided in appendix D.

RESPONDENTS' FILES

Two hundred and thirty two grade 11 students participated in this research. 58.2 % (N=135) are males and 41.8 % (N= 97) are female subjects. Participants' age ranged between 16 to 20 years with an average of 17 year old (*See appendix D, tables 1, 2, 3*).

FREQUENCY AND INTERNET ACCESSIBILITY FINDINGS

The current study shows that out of the two hundred and thirty two participants no one reported having no Internet access. 54.3 % (N=162) have Internet accessibility at home and 81.9 % (N=190) reported having Internet accessibility at school (*See Figures 1, 2*). Regardless of economical status, a hundred percent of the sample reported having Internet access either at home, school, or an Internet café.

Figure 1 Distribution of Students by Internet Accessibility at Home

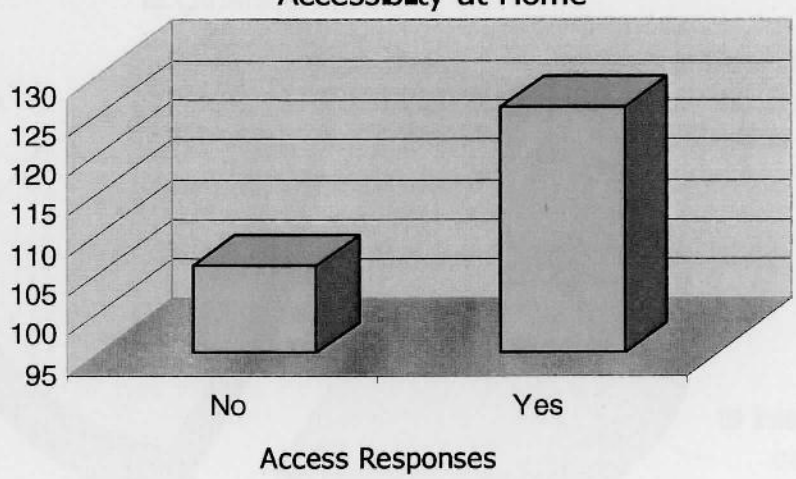
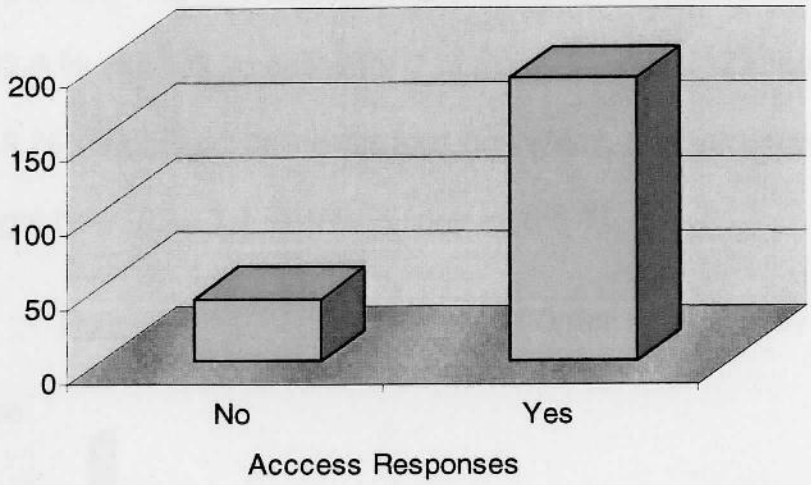
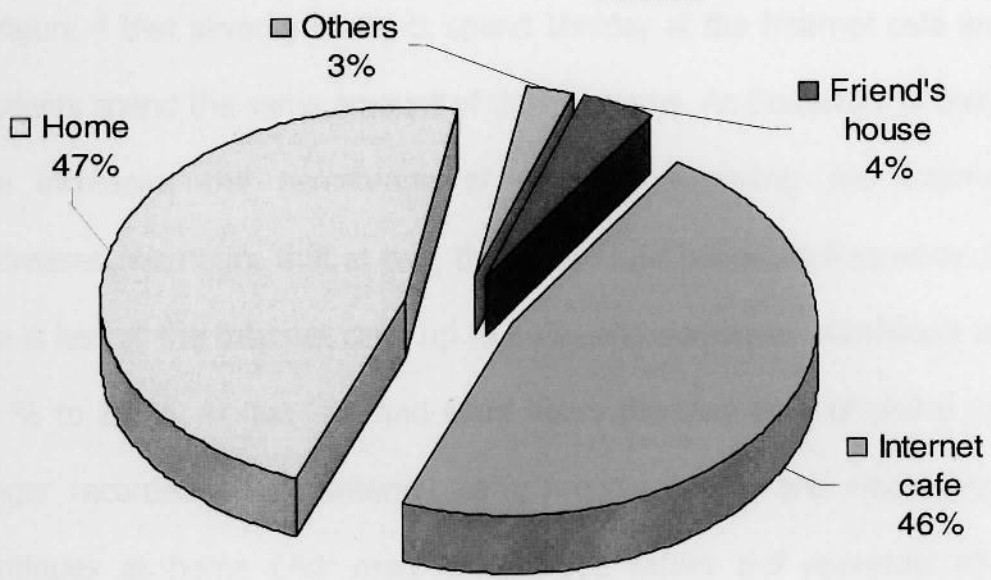


Figure 2 Distribution of Students by Internet Accessibily at School



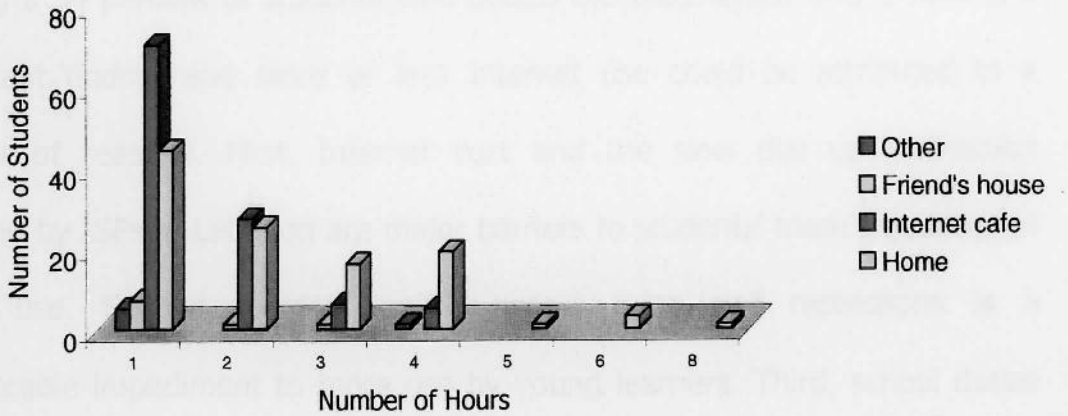
Internet accessibility does not indicate actual use. So we asked the students "where do they go online?" and "how much time do they spend online/ day?" Of 232 participants 46.6 % (N=108) go online form an Internet café, 47 % (N=109) go online from home and 3.9 % (N=9) go online from a friend's house. The 'others' shown in the chart below is either Library, computer lab, or else where (*See Figure 3*).

Figure 3 Distribution of Students by Online Access



The majority of students have two main Internet accesses, home and the Internet café. The majority of students 54.3 % (N=126) access the internet 1hr/day. 22.8 % (N=53) go online for 2 hrs/day. 9.9 % (N=23) go online for 3 hours, 10.8 % (N=25) go online for four hours/day, and very few spend five, six, and eight hours/day 2.1 % (N=5) (*See Figure 4).*

Figure 4 Number of Online hrs Spent/day



H1, which states that "There is a positive relationship between Internet availability and students' frequency of online use, is supported. Statistics show in figure 4 that seventy students spend 1hr/day at the Internet café and 44 of students spend the same amount of time at home. As frequency of daily online use increases, the percentage of students accessing the Internet café decreases. We notice that at two, three, and four hours the frequency of online use is less at the Internet café, up to 30%, and somehow maintained at home, 25 % to 20 %. At five, six, and eight hours the frequency of online use is no longer recorded at the Internet café, friend's house, and elsewhere, but it continues at home (*For more details see tables 6-9 appendix D*). Home

availability increases students' frequency of online use and thus renders a positive relation between the two factors. It is essential to mention that the five, six, and eight hrs spent/day are students' specified answers in the blank provided for them in the questionnaire.

Having a 54 percent of students who access the Internet for only 1 hour is a significant finding and more or less Internet use could be attributed to a number of reasons. First, Internet cost and the slow dial up connection provided by ISPs in Lebanon are major barriers to students' more frequency of online use. Second, parents online access rules and restrictions is a considerable impediment to more use by young learners. Third, school duties and study requirements are the most influential limitations to students' frequency of online use. Finally, the most important barrier is, perhaps, teachers' less frequent use and low assigning of online material in the curriculum. Instead of employing the Internet for educational purposes, some teachers still resort to traditional methods and styles, thus restricting the frequency of online use for educational benefits.

However, with all the restrictions grade 11 students have in relation to access to the Internet, be it contextual or cultural, all of participants are connected to the Internet whether at home, Internet café or school. 232 grade 11 students spend at least one hour/day. Most of them value and practice online use, as

the next hypothesis will show. The majority favor using the Internet for educational and non-educational use, as will be shown later in the study. These practices may be preparing the grounds for a postmodern, new value system to take ground in the Lebanese high school institutions, a fact that needs to be seriously considered and made the best of for educational purposes.

Student's access to the Internet shows students' interest in an informal knowledge passed down to them by non traditional methods. In the process students are forming a different set of values which may with time reshape their social, emotional, and educational practices.

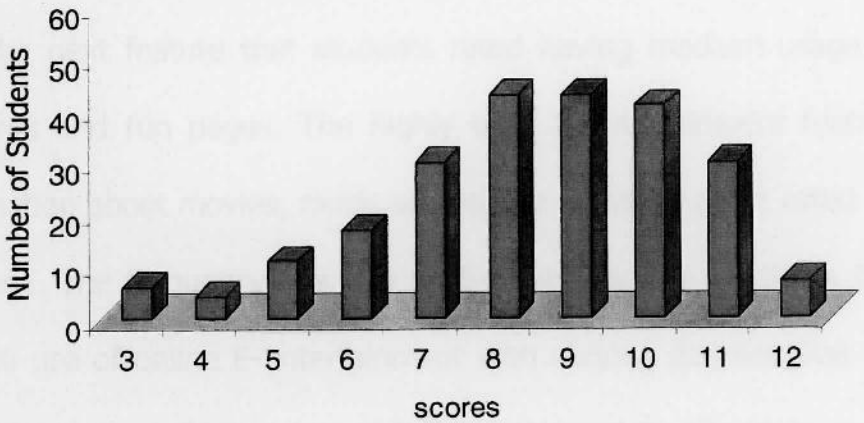
NEW PRACTICES FINDINGS

According to H2 "The Internet has led to New Practices among learners in terms of A. Using the Internet as means of communication B. Using the Internet as means of entertainment C. Using the Internet as means of information, the study has found that this claim is supported."

The technologically oriented world is directing young generation towards new practices. Although this may take years of investigation to prove, it seems it is coming its way through a number of means where E-Communication, E-Entertainment, and E-Information are major instruments.

To obtain concrete data about the new practices of Lebanese generation in relation to the Internet, students were given ten questions (*See appendix B, questions* 7-15) which are measured on a four point scale of 1= 'never,' the lowest point given, and 4= 'always,' the highest points given. The first three questions 7-9 inquire about E-Communication use. The lowest score students received on these questions is 3 points for the 'never' used E-Communication, and the highest score is 12 points for the 'always' used E-Communication. The points which range between 4 and 11 are students' 'rarely' and 'sometimes' used E-Communication scores (*See figure 5*). Statistical data proves that online communication is a major factor in the practices of the new generation along with the two other factors, E-Entertainment and E-Information. The first part of H2 "The Internet has led to new practices in terms of E-Communication" is supported.

Figure 5 Distribution of Students by E-Communication Practices

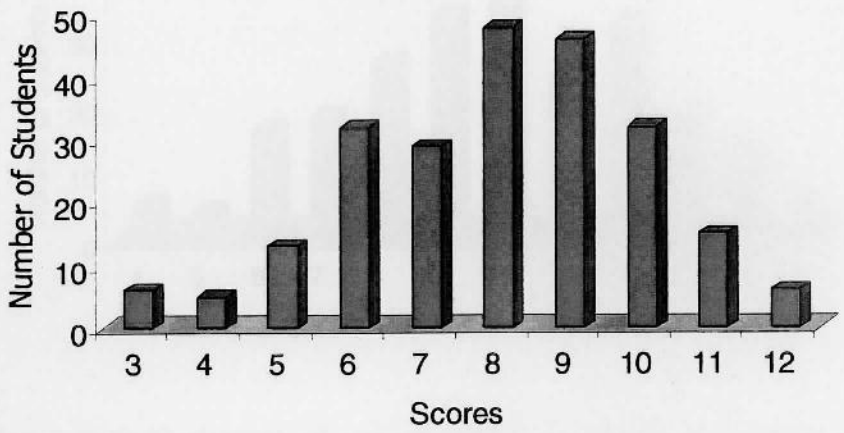


Though in varying degrees, it is significant to find that 97.4 percent of students' scores on E-Communication range between 4= 'rarely' used E-Communication and 12= 'always' used E-Communication. Lenhart (2001) and

Levin (2000) report that e-mailing, chatting with friends, and making online buddies are important features of communication for postmodern generation. It is significant that within friendly, hospitable, and Eastern culture, the majority of students resort to online communication to collaborate with friends, chat and exchange personal and other news when face-to-face communication can easily be resorted to.

Questions ten through twelve of the questionnaire are used to determine students' frequency of E-Entertainment. Students indicated their usage on a 4-point scale. Similar to E-Communication questions, responses ranged from 1='never' used E-Entertainment to 4='always' used E-Entertainment. The least frequently used feature of E-Entertainment was playing games online. This is, probably, due to the high cost of online games that some students' budget may not afford. The next feature that students rated having medium usage at is sending e-cards and fun pages. The highly used E-Entertainment feature is finding information about movies, music and leisure activities and it rated 85 % of students use. The frequency test run on E-Entertainment questions 10-12, shows 97.4 % use of online E-Entertainment with varying degrees that range between 4 points score of 'rarely' used E-Entertainment to 12 points score of 'always' used E-Entertainment (*See Figure 6*). Thus, H2 The Internet has led to new practices among learners in terms of E-Entertainment is supported.

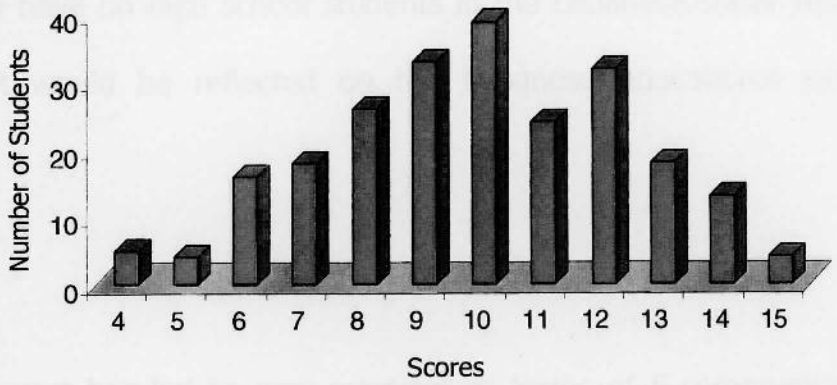
Figure 6 Distribution of Students by E-Entertainment Practices



Data analysis on students' practices and use of E-Information yielded a significant result of 97.8 % use ranging from 5='rarely' used E-Information to 15 'always' used E-Information, the highest score received by students (*See Figure 7*). Perhaps the most commonly used E-Information feature is "finding information about movies, music and leisure activities." The second important feature is "reading online news about events in Lebanon and the world."

"Downloading online study aid and exchanging class notes with classmates online" are the least E-Communication used features, and this, may be, related to the frequency of educational online projects and homework assigned by teachers (*See appendix D for frequency tables of E- communication, E-Entertainment, and E-Information*). Accordingly, H2 "The Internet has led to new practices among learner in terms of E-Information" is also supported.

Figure 7 Distribution of Students by E-Information Practices



To consider a radical change of values within a culture is a great attempt for the current novice research. It takes many years of investigation and study on the social, cultural, and economical level to determine whether a society is having a change in its value system or just showing symptoms of a trend that may change forms with time. Across ages there had been a mark, a trend, a philosophy, an invention or discovery that characterized an age, gave it a name and shaped its identity. Similarly, the postmodern era has taken its name, and among other variables which make up its components, the Internet, as the current research has demonstrated, is a major factor of its distinctiveness. E-Communication, E-Entertainment, and E-Information combined form some basis of a postmodern society, which is characterized with new practices and values.

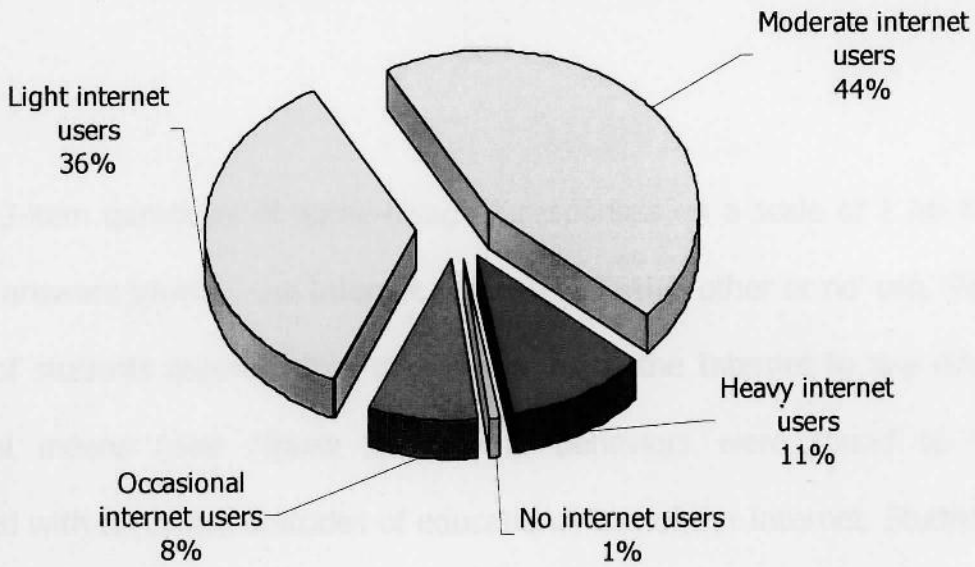
The current study is providing some data in regards to the new practices of postmodern generation and, perhaps, the data is a foothold for more study on postmodern practices in a Middle Eastern Culture. Though it may take years

of research and investigation, it is essential to consider the influences such changes may have on high school students in the Lebanese social settings, in general, that would be reflected on the Lebanese educational system in particular.

H2 "The Internet has led to new practices in terms of E-communication, E-Entertainment, and E-Information" may also be described in group forms. Accordingly, the researcher categorized participants' responses of new values system questions 7-15 into groups based on their degree of Internet use. This degree is determined by students' grade point average (GPA) of these questions. Each group is made up of six grade point averages beginning with 11 GPA; the lowest GPA students received; and ending with 34 GPA; the highest GPA students received (*See appendix D table 34*).

The first six GPA group is identified as the 'occasional Internet users'. The next six GPA group is the 'light Internet users.' The third group is the 'moderate Internet users,' and it makes 44 % of students' GPA received. The fourth group is the 'heavy Internet users' and it received only 10.8 % average since only 25 participants scores ranged between 29 and 34 GPA of E-use. The last group is the 'no Internet users,' a group of 2 people who scored 9 GPA on their new value system questions. This group, "no Internet users," does not prefer to use E-Technology for reasons not investigate by the researcher (*See Figure 8*).

Figure 8 Distribution of Students by Groups Towards New Value System



Distributing subjects in groups of occasional, light, moderate, heavy, moderate and no Internet users based on grade point average support the new value system claim. The distribution reveals a considerable amount of E-Communication, E-Entertainment, and E-Information use and a significant tendency towards a possible postmodern society, which has a new set of practices and values.

STUDENTS' ATTITUDES TOWARDS INTERNET USE AND FINDINGS

Upon first look at descriptive statistical results of students' attitudes towards Internet use, it is evident that 86 % of students are in line with H3 which says that "Students have positive attitudes towards the Internet compared to traditional learning." Duggan's (2001) study, where attitudes questions are derived, has used a 5-point response scales ranging from 'strongly disagree' to

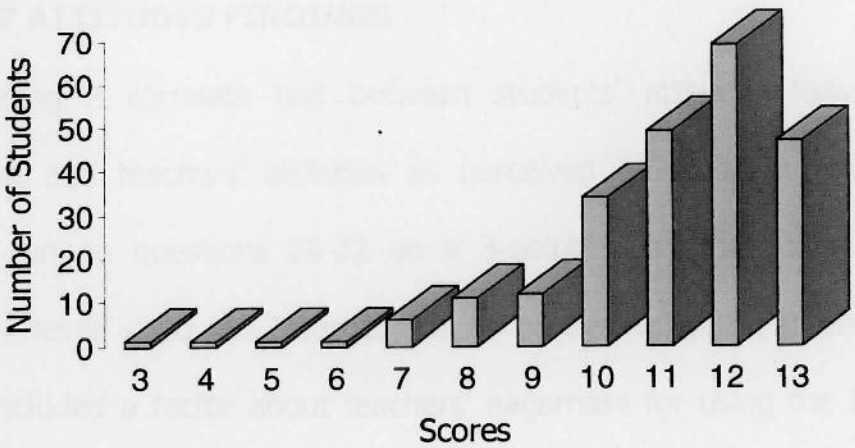
'strongly agree.' However, admitting a pit fall, the present study completed the form of questionnaire (N=232) on a 2-point scale of 'agree and disagree'.

Having 13-item questions of agree-disagree responses on a scale of 1 for the 'positive' answers towards the Internet use and 0 for the 'other or no' use, 98.2 percent of students reported that they prefer using the Internet to any other traditional means (*See Figure 9*). Several behaviors were found to be associated with favorable attitudes of educational use of the Internet. Students who use the Internet for educational purposes possess a favorable attitude towards its practical educational benefit. They also are stimulated to use the Internet for social purposes. Students with favorable attitudes may be using the Internet for general and for educational purposes more frequently.

The present study finds that using the Internet is more favorable to students than traditional means and methods. It might be argued through future research that favorable attitudes of Internet use for education could provide students with an advantage they need to stay abreast the increasing knowledge-base, because use of the Internet continues to increase in business, in academia and in variety of social networks. Attitudes were more positive when students said they use the Internet for any one specific purpose. Students who think highly of the Internet would exhaust its capabilities; they may be learning to like it more by using more of its various features. Explicitly,

electronic mail and World Wide Web, as E-Communication test proved earlier, are found to be the most used features of the internet (*See Figure 9*).

Figure 9 Descriptive Statstics for Students' Attitudes Towards the Use of the Internet



Therefore, "H3 Students have a positive attitude towards Internet-based learning compared to traditional learning" is supported. Statistical data collected and frequency tables of each question of 13-item derived from Duggan's are provided in appendix D. Date records 98 % of students with positive attitudes towards Internet-based learning compared to traditional learning. 94 % of participants say the Internet is as important as other research tool (library). 87.5 % of participants continue to say they prefer using the internet to do research, and 90 % of students consider the Internet easier to use than the library. 83.2 % disagree with the question asking if they wish they don't have to use the Internet for educational purposes and 75 % wish

that more teachers assign internet-based education. Finally, 71 % of students report enjoying subjects that integrate Internet more then subjects that don't.

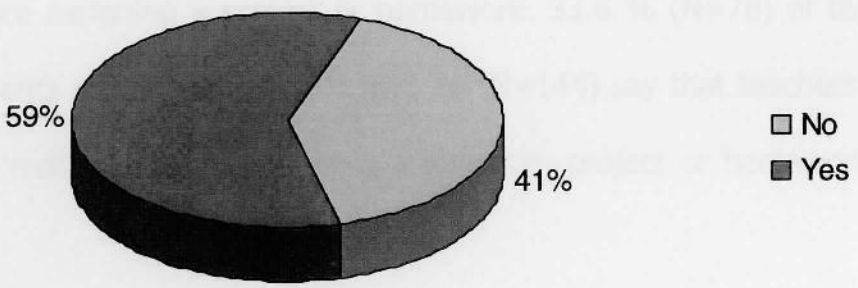
TEACHERS' ATTITUDES FINDINGS

Before running a correlate test between students' attitudes towards the Internet use and teachers' attitudes as perceived by students, descriptive analysis is run on questions 30-32 on a 3-point scale, the scores ranged between 3='never' used the Internet and 9='always' used the Internet. The questions included a factor about teachers' eagerness for using the Internet, the ability to motivate students to use the Internet. The other factor is related to teachers' ability to clarify Internet-based material before assigning Internet-based projects and homework. The last factor asked about is the teachers' ability to handle Internet-based discussion after projects are done.

When students are asked if their teachers assign online projects and home work 59.5 % (138 N=) answered that teachers do assign online material and 41.5 % (N=94) said their teachers don't assign online projects. As mentioned earlier and abiding by government decree 10227, some teachers, though moderately, are integrating Internet-based education in the curriculum (*See Figure 10*). A considerable amount of teachers assign online projects, homework and research. One of the most popular and well known online

activities teachers assign to students is surfing the web for information about topics; social, historical, religious, economical and many others; related to subjects required in the curriculum. Most students enjoy browsing the Internet for data on educational and non-educational purposes. Dewey and many other Educators believe that one of the most important educational tools educators may resort to in order to maximize the efficiency of the learning experience is allowing students to investigate and discover. However, the learning experience needs to be motivational, directed, and well maintained.

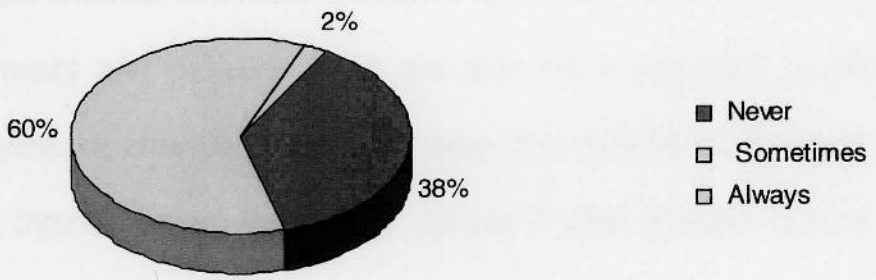
Figure 10 Descriptive Statistcs of Teachers' Assigning of Online Projects



When students are asked if teachers are eager about using the Internet, 60.3 % (N=140) reported that their teachers are sometimes motivated to use the internet. 37.5 % (N=87) said teachers are never motivated, and only 2.2 % (N=5) said their teachers are always motivated to use the Internet (*See Figure 11*). Teachers' eagerness and motivation may refer to personological factors related to gender, teaching philosophy and teaching styles. It also may refer to lack of knowledge in Internet- based education. It also may be due to lack of

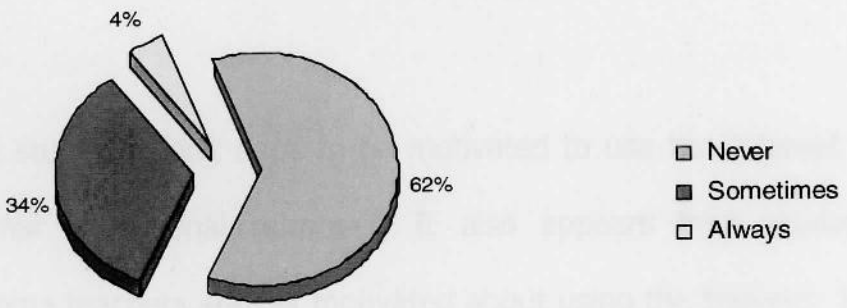
Internet accessibility. Teachers' eagerness about using the Internet is, perhaps, an arguable study for future research.

Figure 11 Descriptive Statistics for Teachers' Eagerness about Internet Use



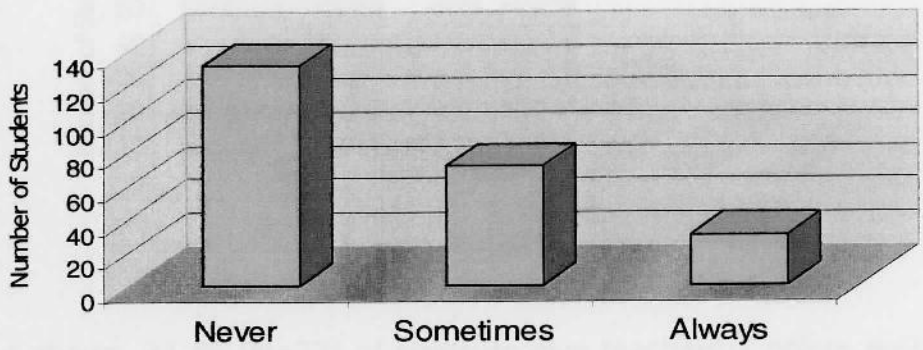
Students reported that 4.3 % (N=10) of teachers always clarify Internet-based material before assigning a project or homework. 33.6 % (N=78) of teachers sometimes clarify online material and 62.1 % (N=144) say that teachers never clarify online material before assigning a research, project or homework (*See Figure 12*).

Figure 12 Descriptive Statistics for Teachers' Clarification of Online Use



Teachers play a central role in the effectiveness of online delivery. Though it is arguable that teachers' attitude is a major influence on students, teachers' control of technology is probably a determining factor. Students attending a class with an instructor who has a positive attitude towards technology are likely to experience more positive learning outcome. Teachers who are more eager to use the Internet are more motivated to clarify online material before giving assignments and projects. They are also more prepared to provide instructional feedback after the research is done. It is difficult for teachers who do not clarify Internet-based material to discuss it after student browse the Internet (*See Figure 13*).

Figure 13 Descriptive Statistics for Teachers' Discussion of Online Use



It is evident that students don't need to be motivated to use the Internet for formal or informal educational purposes. It also appears from students' responses that some teachers are not motivated about using the Internet. It is also evident that teachers are not assigning Internet-based material appropriately. Few teachers direct students and clarify 'how and where to find

Internet-based' material before they assign projects. The majority of teachers never discuss the projects after the research is done. It is evident that students' online educational experience is not well maintained by teachers. The result, as Figure 14 shows, is skewed negatively towards an unlikely use by teachers; and the result of students' attitudes, as Figure 9 shows, is skewed positively towards a more likely attitude towards Internet use. Along with many other barriers, the gap between teachers' and students' attitudes towards integration of Internet-based material impedes a better educational result. As

Figure 14 Descriptive Statitics for Teachers' Attitudes Towards the Internet, as Perceived by Students

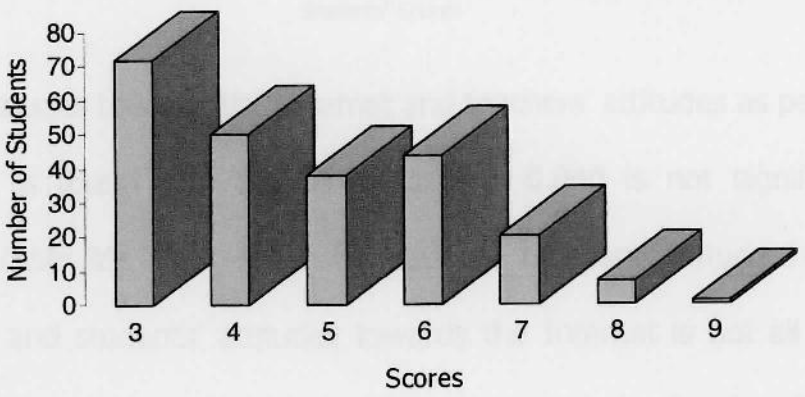
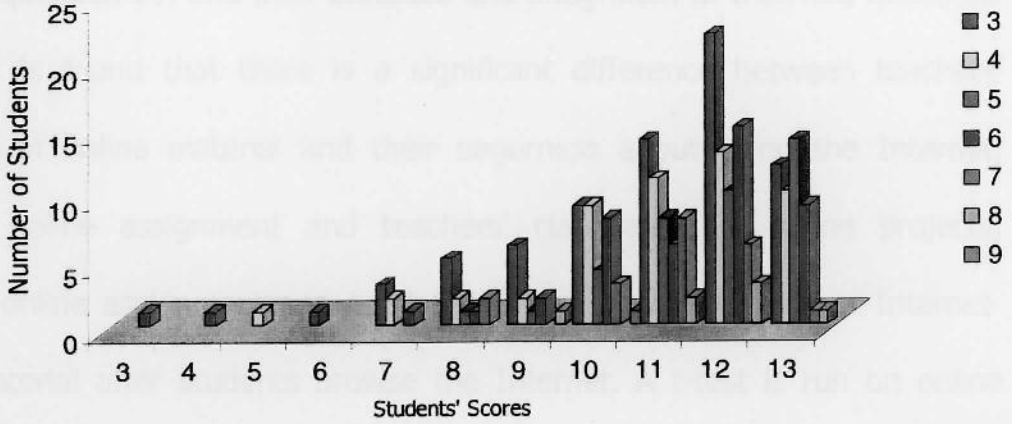


figure 14 shows, 31 % (N=72) of students give teachers 3 points score. 21.5 % (N=50) give teachers 4 points score. 16.4 % (N=38) give 5 point score. Around 19 % (N=44) of students give teachers only 6 points. 8.5 % (N=20) give teachers 7 points. 3 % (N=7) of students give teachers 8 points and only 0.4 % (N=1) of students give teachers a 9 points score. The highest average goes for the less likely integration of the Internet by teachers, as students reports show.

H4 There is a positive correlation between students' attitudes towards the Internet and teachers' attitudes towards the Internet, as perceived by students is not supported (*See Figure 15*). A Pearson correlation test is run between

Figure 15 Correlation Chart for Students' and Teachers' Attitudes Towards the Internet



Students' attitudes towards the Internet and teachers' attitudes as perceived by students. It is found that the correlation r= 0.040 is not significant (*See appendix D table 36*). The relationship between teachers' attitude as perceived by students and students' attitudes towards the Internet is not all the same. Students' attitudes are highly positive compared to teachers' attitudes. Students' attitude towards the use of the Internet is 98.2 percent slanted positively. Whereas, teachers' attitude towards the Internet is, approximately, 97 percent slanted negatively as mentioned earlier. It is evident that teachers are more prone to traditional teaching than to Internet-based learning. It is also evident that students have high tendency towards informal knowledge innovative methods of learning; regardless of their superiors' attitudes whether

teachers, parents, or administrators; and regardless of other circumstantial financial or cultural barriers.

A t-test is run to show the frequency of teacher's assignment of online projects, question 29, and their attitudes and integration of Internet, questions 30-34. It is found that there is a significant difference between teachers' assigning of online material and their eagerness about using the Internet, between online assignment and teachers' clarification of online projects, between online assignment and teachers' discussion of research or Internet-based material after students browse the Internet. A t-test is run on online assignment and teachers' participation in training sessions to practice integrating Internet. Finally, a t-test shows significant difference between online assignment and teachers' use of other instructional tools in class (video, audio, TV) (*See appendix D table 35).*

Of participants who answered that their teacher assigns online research, 27.6% (N=64) say that their teacher never participated in training sessions. 54.7 % (N=127) say they "don't know" if their teacher participates in online sessions or not. 15.5 % (N=36) say that sometimes their teacher participates in training sessions, and only 2.2 % (N=5) report that their teachers always take training sessions. 70 of 138 students of the 'Yes' group, who say their teachers assign online projects and home work, answer that they "don't know" if their teachers

participate in training sessions, and 57 of the 94 students of the 'no' group, who say that their teachers do not assign online projects and home work, say they "do not know" if their teacher participate in training sessions or not. This answer may really indicate students' ignorance about their teachers training, and it also may indicate that students are giving themselves, somehow, a margin of freedom to avoid answering for their teachers, which is a positive act of students towards their teachers (*See appendix D table 32*).

When students, who answered that their teachers assign online material, are asked if their teachers use other instructional tool in class, 11.2 % (N=26) of them answered never. 69.8 % (N=162) reported that their teachers sometimes use other instructional tools, and only 10.3 % (N=24) say their teachers always do. The proportion of "I don't know" answer drops considerably for this question to 20 answers out of 232 of participants. The reason may be that students really don't know the answer. It also may be that students don't want to embarrass their teachers so they respond with the "I don't know" answer. Sometimes students know that their school does not provide such technological means, so to avoid any inconveniency they pick up "I don't answer" (*See appendix D table 33*).

The significance of this test is that it provides more information about the percentage of students who reported having teachers assigning online projects

and the somehow parallel relation to teachers' integration of the Internet and their assumed attitude towards technology. Similarly, the test shows a significant parallel between teachers who do not assign online projects and research and their integration of online material in the curriculum; and their assumed attitude.

The current research has demonstrated that all students have Internet access either at school, home, or an Internet café. It also has provided information about the practices of postmodern generation in regards to the Internet. It also provided evidence to a potential shift towards a change in the value system of young generation. The study finds that students have highly positive attitudes towards the Internet and that they "perceive" that their teachers have highly negative attitudes towards the Internet. Perhaps, an important realization this current research has reached is that it provided some data about the Internet integration in the Lebanese high school institutions.

E-Learning is more in the interest of the new generation of Lebanese learners. Students prefer using E-Learning to P-Learning system of education. E-Learning engages learner more with their own environment. It tends to their desires and provides them with informal Knowledge that goes beyond the borders and spaces provided to them in their traditional classrooms. Students

showed, in this research, that they favor an education that is relevant to their lives and which is not a source of boredom.

This study also provides evidence that teachers should attend to students' desires and direct them within their world and cultivate their capacity for integrating more Internet-based material in the curriculum. Teachers are the careful selectors of the right tools to improve the educational experience of learners in a twenty first century. Teachers need to employ E-Communication, E-Entertainment, and E-Information skills to enhance education and provide an up-to-date education. In a postmodern world where media and advanced technology allows for values to easily diffuse in different cultures and where postmodern generation can easily integrate new practices in their lives, it is essential that teachers take such a means an advantage to improve students' educational outcomes and contribute positively in the making of a postmodern new value system.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

The main purpose of the current research is to investigate the extent recent technology; mainly the Internet; play in young learners' lives, provide documented data about the Internet in Lebanese high school Educational institutions, and motivate educators to adopt new methods of teaching. The target subjects are grade 11 of English speaking schools in the Beirut area. The four hypotheses suggested that the Internet, which is an important mark in the century, has led learners into new practices in terms of E-communication, E-entertainment, and E-information and to some how a new value system. The Hypotheses also suggested that learners hold positive attitudes towards the Internet compared to traditional learning. The hypotheses also look upon the correlation between students' attitudes and teachers' attitudes as perceived by students and try to make a positive link, a compromise between the past and the present between the acknowledged and accepted, and the contemporary and innovative.

Results show the extent Internet plays in students' lives and points at the Practices of the New Value System explained by Lenhart (2001) and Levin (2000). Results, which use Duggan's (2001) 13-item questions, show students' positive attitudes towards the Internet compared to traditional learning. Furthermore, results show a correlation, yet not a positive one, between students' attitudes and teachers' attitudes in relation to the Internet. A positive result of a t-test is shown between teachers' online assignment and their attitudes towards Internet-based and methods used to integrate Internet material.

It is apparent that the results of the first hypothesis show that all students are connected to the Internet whether at home, school, or an Internet café. Traditionally, the notion for being connected to the world communication network has meant having a telephone. Today, increased use of computers and Internet had changed this notion. Statistical data shows, to be connected today seem to, increasingly, mean to have access to the telephone, computer, and the Internet. The data provided prove that high school educational institutions are greatly responding to this demand and only 18.1 % (N=42) of participants reported having no Internet access at school and 81.9 % (N=190) reported they do have. While these items may not be necessary for survival, mainly in our region, arguably, in today's quick emerging technologies are necessary for success.

The frequency of online use, in the Lebanese educational institutions, tends to go moderate-light wise due to several reasons. First, because of the present economical situation, the majority of Lebanese educational institutions invest in more urgent matters necessary for their institution survival. As a result they limit school Internet access and students' frequency of online use. Second, whether school administrators or parents the two parties have concerns about students' access to inappropriate materials and accordingly restrict their use. Adults may practice supervised access of the Internet or limit students' access to assigned hours. Third, student's condensed academic schedule cut down their online visits during winter and may intensify it in summer. USDE (2000) in Teachers'21 Century Tools list similar barriers to frequency of online use and mentions that students during school year, use the Internet more frequent within classes not only for research outside class. This fact may need a couple of years before, hopefully, begins to be implemented within Lebanese educational institutions.

Compared to Lenhart (2001) H2 is supported as different variables of students practices of the new value system has a considerable potential of approximately 70% average of E-Communication, E-Entertainment, and E-Information. The current research, similar to Lenhart, shows that the Internet plays a major role in students' relationship with their friends, family, and school. E-Communication variable gets the highest average among the other variables, perhaps, this is due to Instant Messaging (IM) (chatting), which the most commonly practice among learners. The IM generation, as Lenhart calls,

uses this techno-communication up to 75 % of their online time. E-mailing has a key place in many young lives and talking to buddies has become the 'information age' way to have fun and beat back boredom. Statistical data in the current research has found that such means of communication is a key factor in many of Grade 11 students' lives.

E-Entertainment variable is another key factor in students' lives. Many enjoy sending fun pages and a considerable number of the sample play games online, some more often and some from time to time. Perhaps the most encouraging factor in this variable is that learners consider the Internet a major source for finding information about movies, music, and other entertainment and educational subjects.

E-Information variable is a strong determinant that seems to face many hurdles in our Lebanese educational settings. Students in Levin's report finish school work more quickly on the Internet, and probably have quicker and better access to the internet (broadband connection). They are less likely to get frustrated by material they don't understand. They are better off educationally when they use the Internet for papers and projects. Similar to Levin, virtually all students who reported having teachers assign online research say that the Internet does help them complete their home work assignment. However, unlike Levin, very rare Lebanese grade 11 students exchange class notes or download study aid online. Most students in Levin's research regularly share tips about favorite web sites, pass on information about homework shortcuts

and sites that are rich in content. They also communicate with online teachers and participate in online study group. For many the Internet has become an essential part of their communication style. Lebanese grade 11 students share some of these qualities. Though not much of students' use of the Internet is provided; that is some learners may use the Internet for other purposes like watching sports games, having counseling sessions, following fashion beauty or sex; there is a high percentage of learners who prefer using the Internet for educational purposes compared to traditional methods.

Many students, Levin reports, consider their schooling closely tied to the daily tasks and activities that make up their lives. They compare the Internet to a traditional library. It is the place for their primary and secondary source material. They consider the Internet a virtual tutor, a virtual study group, virtual counselor, a virtual locker, back pack and note book. Very few of the Lebanese students covered in the current survey report using the internet heavily. However, the Internet has evidently led to new practices among learners in terms of E-Communication, E-Entertainment, and E-Information. Thus Internet has, somehow, created new practices in their value system. With the passing of time, we will see whether the assumption is valid.

It is worth mentioning that by chance, as the researcher was conducting the research instrument at one of the schools in Beirut area, found that virtual learning is taking place in five Lebanese educational institutions through a program designed for k-12 called "iEARN." Grade 7 is integrating it in their

curriculum. Students are virtually connected with a multi-number of other virtual learners from world wide nations. They can communicate in English, Portuguese, Spanish, Arabic, Ocarina, and French. More languages, approximately 100, are available for communication. The teacher who volunteers is the monitor that incorporates the various themes; which may be Art, Humanities, social sciences, Math virtual learning, live labs, Astronomy and many others; of "iEARN" within students' academic program. The teachers receive free training by the "iEARN organization group" and they get Internet access, computers, and technical support also from the organization itself. Teachers reported that most students enjoy this kind of learning and they feel that students who are more skillful than others and show a higher level of virtual knowledge and participation are friendlier, more confident, and show more positive social skills.

Do students have a positive attitude towards Internet-based learning than they do towards traditional learning? H3 shows highly significant results among grade 11 learners compared to Duggan's study. Students who show favorable attitudes towards the use of the Internet are those who believe they learn something useful from the Internet. For educational purposes, perhaps, the most commonly used feature is term papers and projects. Students prefer using the Internet for any one specific reason. It might be argued that favorable attitudes for Internet use for education could provide students with an advantage they need to stay abreast the increasing knowledge-base world,

because the Internet continues to increase in academia and in a variety of social and economic networks.

There is no difference in attitude towards the Internet for education between those who own a computer and those who do not nor was there a difference in attitude between students who are connected to the Internet or those who are not. This suggests that students who have computers and /or are connected to the Internet may have other uses for its capability other than for educational reasons, so attitude may not influence or be dictated by sheer ownership of technology.

There is a gender difference in Lebanese E-education compared to Duggan's who reported having no gender difference. Though distinction is not important for the purpose of this study, it is worth noting that males and, may be for enjoying more privileges than females in an Eastern culture, spend more time surfing the Internet and are given more freedom to access technologies young ladies are not allowed to. The sample shows a considerable number of female students accessing the Internet. However, the fact may change tremendously if our sample included students of the mountains of Lebanon, South or North. Although we don't have data to support this claim, a possible argument may be that considering our knowledge of the culture may allow us to assume that not only females but also males access to the Internet are influenced and may have a different dimension, purpose, and preference in rural areas compared to the Beirut area.

The frequencies of students' positive responses suggest that most students welcome the integration of the Internet in their education. However, it is noticed that there is a slight difference in percentages between students' attitude towards using the Internet for fun compared to their attitude towards its integration in the curriculum. They believe they would learn something useful from the Internet and wish more teachers to assign Internet-based material. Using the Internet, perhaps any other technology or educational tool, would be of favor to students to change their monotonous classroom habits. Statistics show students' high tendency towards enjoying Internet-based material, a fact that requires more attention by teachers.

Though more research needs to be conducted so as to measure teachers' attitudes towards the use of the Internet from the teachers' rather than the students' perspective, this study shows that in comparison, students' attitudes towards the Internet and teachers' attitudes, as perceived by students do not have a positive correlation. Most students consider the Internet an important source of information and wish to use it for educational purposes. A considerable percentage believes the Internet makes learning fun and wishes more teachers to assign internet-based education in their curriculum. Regardless whether teachers know students like this tool or not, regardless if they know it is a government curriculum requirement or not, forty percent of the students report that teachers never assign online projects or homework. Thirty eight percent of students say that teachers are never eager about using the Internet. Sixty one percent of the students say teachers never clarify how

and where do students find Internet-based material. Although students report that fifty nine percent of teachers assign online projects, they say that fifty seven percent of teachers never discuss research or Internet-based material after students browse the Internet. Teachers' attitudes towards the Internet, as perceived by students, is effecting their integration of Internet-based material in the curriculum and accordingly, effecting students' educational outcomes.

Anderson (1998) attributes teacher's unlikely attitude towards the Internet to a number of reasons. First, Anderson believes it is due to teachers' lack of Internet knowledge, which we assume is true and statistical data supports this claim. Second, schools do not offer professional development for teachers to learn how to integrate the use of the internet in the curriculum. Another reason is that there is no administrative support and no technical support, perhaps because the school is unable to provide any. Teachers' unlikely attitude towards the Internet may be due to schools outdated, incompatible and unreliable computers. It also may be due to the slow Internet accessibility. Some teachers may say they don't have enough time to learn, practice, and plan ways to use the Internet for educational purposes (USDE, 2000; Rogers, 2000). Perhaps, newer teachers are more likely to incorporate computers and the Internet to accomplish various teaching objectives. It is known that most Lebanese high school teachers have more than ten years of experience. USDE reports that teachers with fewer years of experience, 5-9 years, are more likely to use computers and the Internet than teachers with more years of

experience. All these questions are possible future investigations for more up-to-date integration of the Internet in the curriculum.

The dramatic growth of electronic commerce and the development of Information Technology (IT) industries in the world is a fact that is effecting educational institutions and cannot be ignored anymore. All social, economic, and educational domains, perhaps, have started to increasingly require technical skills and familiarity with new technology information and world wide connections. They are increasingly requiring access to more up-to-date personnel, faculty and administrators. There is a lot to be investigated, studied, and improved in relation to technology in general and the Internet-based education in particular. What will be the future of E-Learning in the Lebanese Educational institutions? Will educators take the lead in an ever changing world of values, styles, and technologies? Will educators look upon students' desires and use tools that facilitate learning and improve academic performance? Since the Internet is an inevitable technology in today's world that is regarded positively by the majority of students as this study has showed, more work needs to be done by curriculum designers and teacher trainers so as to integrate this technology in the educational settings in order to enhance learning. Regardless of all possible barriers, teachers are required to integrate more Internet-based material in the curriculum for better educational experience related to students' environment.

The data provided may be a stepping stone for more research in the field of E-Learning and education in the Lebanese institutions. It gives a modest image of Internet accessibility in the Beirut area. It provides a basic, acceptable, data about a postmodern generation, who is influenced by western popular culture and media. It, perhaps, provides some data about the needs of postmodern youth to move with a quick changing world of technology and make use of its innovativeness. The data also provides evidence on teachers' attitudes toward the use of the Internet in Lebanese educational institutions though from the students' point of view; a huge number of research conducted in the world are collected in similar methods. Our findings indicate potential for making use of E-learning in the Lebanese high school institutions. The data provided does not aim at focusing on the advantages of E-Learning methods exclusively and disregard traditional learning. It aims at showing an extra dimension in education which can facilitate the educator's task and can benefit students as well.

Educators are called to be student-centered, challenging, and multifaceted in a postmodern context. In our culture it is still essential to use the S-Learning method, P-Learning method, however, we, educators, are encouraged to use the E-Learning method to stay abreast the ongoing world of knowledge. Educators are called to use E-Learning components e-books, e-dictionaries, e-homework and projects to up-date their education with new elements and styles. Educators need to engage students with activities relevant to their own lives. Educators' virtual instruction would be highly regarded by a generation

that now can within a click of a mouse go on a virtual journey to a strange and a world full of experiences. For instance, in a game called "World of Warfare," students can have multinational and multilingual experiences with as many virtual companions they choose and with 3 million members watching online. Educators are challenged to broaden their terms and parameters to become relevant to constantly changing modes of knowledge. Postmodern educators should tend to the youth who are more programmed into fragmented experience and intellectual transitioning among technology-based education, media, and popular culture. They need to address students' contemporary desires and new modes of online communication. Educators are called to lead learners into an educative, relevant to their environment educational experience. Lyotard (1997) states that postmodern knowledge need to be a presentation of reality which is influenced by experiences, identifications, desires, and values of young learners.

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APPENDIX A

SAMPLES OF THE LETTERS ADDRESSED TO THE PRINCIPALS AND STUDENTS

Dear Principal,

The following questionnaire is part of the requirement in the process of the completion of my Masters Thesis in Educational Administration at Haigazian University. It aims at collecting data about Grade 11 students' attitudes and educational use of the Internet. The questionnaire will take 10 minutes of students' time. The result will be of great help for the research. It may motivate educators; teachers, faculty and administrators; to invest in 21st century educational tools of positive outcomes on learners. It also may be of help for future research in the field. Your cooperation is highly appreciated.

Sawsan Jabbour

Graduate student in Haigazian University

Dear student,

The following questionnaire aims at collecting data about high school students' attitudes and educational use of the Internet. The questionnaire will take 10 minutes of your time. Since the Internet is a familiar tool and of daily use to many students your age, your skill, experience, and accuracy in answering the questions are of great asset for the success of this research. The result may support other research in the field, and may positively enhance future secondary education. Thank you in advance.

Sawsan Jabbour

Graduate student at Haigazian University

APPENDIX B

SAMPLE OF THE QUESTIONNAIRE

Age: _____ **Sex**: Female_____ Male: _____

Please answer the following questions as accurately as possible.

1. Do you have a computer or (laptop)? Yes ☐ No ☐

2. Do you have Internet access at home? Yes ☐ No ☐

3. Do you have Internet access at school? Yes ☐ No ☐

4. Where do you access Internet at **school**?
   a. Library _____
   b. Computer lab _____
   c. Else where (specify) _____

5. Where do you go online from home, school lab, a friend's house, or internet cafe? (*If somewhere else, specify*)

---

6. How much time do you spend online? If more or less specify_____
   1hr/day ☐ 2hrs/day ☐ 3hrs/day ☐ 4hs/day☐

7. How often do you send or read your e-mail?
   Always (6/w) ☐ Sometimes (3/w) ☐ Rarely (1/m) ☐ Never ☐

8. Do you chat with friends and buddies online?
   Always ☐ Sometimes ☐ Rarely ☐ Never☐

9. Do you make friends online then meet them in school or social gathering?
   Always ☐ Sometimes ☐ Rarely ☐ Never☐

10. Do you send e-cards and fun pages for friends and family?

Always ☐ Sometimes ☐ Rarely ☐ Never ☐

11. Do you play games online?

Always ☐ Sometimes ☐ Rarely ☐ Never ☐

12. Do you find information about movies, music and other leisure activities?

Always ☐ Sometimes ☐ Rarely ☐ Never ☐

13. Do you read online news about events in Lebanon and the world?

Always ☐ Sometimes ☐ Rarely ☐ Never ☐

14. Do you download an online study aid?

Always ☐ Sometimes ☐ Rarely ☐ Never ☐

15. Do you exchange class notes and observations with classmates online?

Always ☐ Sometimes ☐ Rarely ☐ Never ☐

Please state whether you agree or disagree with the following statements by ticking the corresponding boxes

16. I usually learn something from the research I do on the Internet that is of practical use to me? Something I can use in my studies or daily life

(agree) ☐---------- ☐ (disagree)

17. I feel the Internet is as important as other research tool, (library)

(agree) ☐---------- ☐ (disagree)

18. I prefer to use the Internet to do research

(agree) ☐---------- ☐ (disagree)

19. I believe the internet contains **mostly** useless information

(agree) ☐---------- ☐ (disagree)

20. I believe the Internet is too difficult to use for school

(agree) ☐---------- ☐ (disagree)

21. I think the Internet is easier to use than the Library

(agree) ☐---------- ☐ (disagree)

22. I feel I hate the Internet

(agree) ☐---------- ☐ (disagree)

23. I hate using the Internet for important educational projects

(agree) ☐---------- ☐ (disagree)

24. I get information from books and the Internet equally

(agree) ☐---------- ☐ (disagree)

25. I feel the Internet makes learning fun

(agree) ☐---------- ☐ (disagree)

26. I wish I don't have to use the internet for educational purposes

(agree) ☐---------- ☐ (disagree)

27. I wish that more teachers assign internet-based education

(agree) ☐---------- ☐ (disagree)

28. I enjoy subjects that integrate Internet more than subjects that don't

(agree) ☐---------- ☐ (disagree

Have your teachers ever integrated Internet-based material in your assignment and homework, please answer the following questions?

29. Does your teacher assign online research and/ or home work?

Yes ☐ No ☐

30. Do you feel the teacher is keen, eager and enthusiastic, about using the Internet?

Always ☐ Sometimes ☐ Never ☐

31. Does your teacher clarify to you how and where (name of website) to find Internet-based material?

Always ☐ Sometimes ☐ Never ☐

32. Does your teacher discuss research done or Internet-based material with you after you browse the Internet?

Always ☐ Sometimes ☐ Never ☐

33. Does your teacher participate in training sessions to practice integrating *Internet in school subjects?*

Always ☐ Sometimes ☐ Never ☐ I don't know ☐

34. Does your teacher use other instructional tools in class such as video, audio, such as tape recorder, or TV?

Always ☐ Sometimes ☐ Never ☐ I don't know ☐

Thank you for your cooperation

APPENDIX C
GLOSSARY OF TERMS

From TESOL

Glossary

Asynchronous: Communication which is not simultaneous; in which there is a likely delay between question and answer.

Bandwidth: A measure of the capacity of a transmission system. Bandwidth is measured in cycles per seconds or Hertz (Hz), and it is the fastest continuously oscillating signal that can be sent across the hardware.

Browser: software used for looking at and accessing information on the World Wide Web. Popular browsers include Netscape Navigator and Microsoft Internet Explorer.

Bulletin board system (BBS): system that allows for the posting and reading of messages on local network; sometimes also connected to the Internet.

Cyberspace: amorphous term used to refer to the world of electronic communication.

FTP: File transfer protocol, a method of transferring files form one computer to another.

Hypertext: A 'hot link' embedded within a Web page which, at the click of the mouse, connects the user to a previously defined page.

Listserv: widely used software used for managing email discussion lists; often used generally to refer to an email discussion list.

News Group: the bulletin boards of the Internet. Conversations are usually reported in sequence so everyone can read the 'thread,' similar to Listservs but more anarchic.

Netscape Navigator: popular browser used for accessing information on the World Wide Web; a component of the Internet suite Netscape Communicator, which also contains Web page creation software called Composer.

Modem (**M**odulator/ **DEM**odulator): a network architecture in which a computer has a point-to-point connection to other computer(s). Full mesh networks, in which each pair of computers is directly connected offer the highest throughout but are uncommon because they are expensive and difficult to change.

Internet: a set on networks connected by routers that are configured to pass traffic among any computers attached to networks in the set. Most internets use TCP/IP protocol.

ISP (Internet Service Provider): A common organization that provides its subscribers with access to the Internet.

Server: Important computer used to transfer files to or between other computers on a network.

Streaming: Computers emit a stream of data, which the network system divides into packets for transport. The streaming could be audio or visual.

Synchronous: communication that takes place immediately, with all participants simultaneously logged on to their computers and messages being transferred instantaneously; also called real-time communication.

TCP/IP (**T**ransmission **C**ontrol **P**rotocol/ **I**nternet **P**rotocol): TCP takes the information to be transmitted by the application and passes it to the IP to be transmitted. IP is responsible for getting a packet of information form one host to another, while TCP is responsible for making sure messages get from one host to another and that the messages are understood. It's TCP/IP which is at he heart of the seamless transfer of information across the Internet whichever platform you are using.

The Net: used to refer to the Internet or sometimes to any computer network (e.g., "see you on the net"); sometimes capitalized when referring specifically to the Internet (e.g., "the Net").

Thread: strand of discussion taking place on a discussion board or in a computer conference.

Web site: series of Web pages connected by links.

Videoconferencing: simultaneous two-way broadcasting of sound and vision using a camera and microphone placed above a monitor. Just like one's own television station.

Virtual: the term virtual is usually used with another word, for instance "virtual library" or "virtual locker." It is called virtual because it is created by software. The software assigns an identifier to a circuit, tags each outgoing packet with a circuit identifier, and sends data for many circuits across a single physical connection. Switches along the path use the circuit identifier to route a packet to its destination. In virtual realities there are no physical truths commonly used.

WAN (Wide Area Network): a network that uses technology designed to span a large geographic area. For example, a satellite network is a WAN because a satellite can relay communication across an entire continent.

World Wide Web: the most popular part of the Internet and the part which browsers are best designed to be used on. The Web is a multimedia environment, while many other areas of the Internet are text-based. Of the Net is the universe, the Web is the brightest galaxy within it. On the Web there are mages comprising virtually everything you could want to find about everything in the world. You can browse and search and collect together suitable sites to match your interests. A 'site' will be a **server** which holds files accessible to anyone on the Web. These files are seen as 'pages' containing pictures, movie clips, sounds etc. or to move on to other pages via **Hypertext** links embedded in the text its this ability to move from one page to another via Hypertext links-even though the actual site of the file might be on the other side of the world-which is called surfing.

APPENDIX D

TABLES OF STATISTICAL DATA

Respondents' File

Table 1

Distribution of Students by Sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	97	41.8	41.8	41.8
	Male	135	58.2	58.2	100.0
	Total	232	100.0	100.0	

Table 2

Distribution of Students by Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16	90	38.8	38.8	38.8
	17	115	49.6	49.6	88.4
	18	23	9.9	9.9	98.3
	19	3	1.3	1.3	99.6
	20	1	.4	.4	100.0
	Total	232	100.0	100.0	

Table 3

Distribution of Students by Computer Availability

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	13	5.6	5.6	5.6
	Yes	219	94.4	94.4	100.0
	Total	232	100.0	100.0	

Table 4

Distribution of Students by Internet Accessibility at Home

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	106	45.7	45.7	45.7
	Yes	126	54.3	54.3	100.0
	Total	232	100.0	100.0	

Table 5

Distribution of Students by Internet Access at School

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	42	18.1	18.1	18.1
	Yes	190	81.9	81.9	100.0
	Total	232	100.0	100.0	

Table 6

Distribution of Students by Online Hours Spent /day

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	126	54.3	54.3	54.3
	2	53	22.8	22.8	77.2
	3	23	9.9	9.9	87.1
	4	25	10.8	10.8	97.8
	5	1	.4	.4	98.3
	6	3	1.3	1.3	99.6
	8	1	.4	.4	100.0
	Total	232	100.0	100.0	

Table 7

Crosstabs of Students' "Online Number of Hours Spent/day" and Their "Home Internet Access"

		Have an internet access at home?		
		No	Yes	Total
Number of hours/day spent online	1	73	53	126
		57.9%	42.1%	100.0%
		68.9%	42.1%	54.3%
	2	25	28	53
		47.2%	52.8%	100.0%
		23.6%	22.2%	22.8%
	3	5	18	23
		21.7%	78.3%	100.0%
		4.7%	14.3%	9.9%
	4	3	22	25
		12.0%	88.0%	100.0%
		2.8%	17.5%	10.8%
	5		1	1
			100.0%	100.0%
			.8%	.4%
	6		3	3
			100.0%	100.0%
			2.4%	1.3%
	8		1	1
			100.0%	100.0%
			.8%	.4%
Total		106	126	232
		45.7%	54.3%	100.0%
		100.0%	100.0%	100.0%

Table 8

Crosstabs of Students' "Online Number of Hours Spent/day" and their "School Internet Access"

			Have an internet access at school?		
			No	Yes	Total
Number of hours/day spent online	1		19	107	126
			15.1%	84.9%	100.0%
			45.2%	56.3%	54.3%
	2		7	46	53
			13.2%	86.8%	100.0%
			16.7%	24.2%	22.8%
	3		3	20	23
			13.0%	87.0%	100.0%
			7.1%	10.5%	9.9%
	4		11	14	25
			44.0%	56.0%	100.0%
			26.2%	7.4%	10.8%
	5			1	1
				100.0%	100.0%
				.5%	.4%
	6		1	2	3
			33.3%	66.7%	100.0%
			2.4%	1.1%	1.3%
	8		1		1
			100.0%		100.0%
			2.4%		.4%
Total			42	190	232
			18.1%	81.9%	100.0%
			100.0%	100.0%	100.0%

Table 9

Crosstabs of Students' "Number of Hours Spent/day" and their "Go online from"

		Go online from:				
		Other	Friend's house	Internet cafe	Home	Total
Number of hours/day spent online	1	5	7	70	44	126
		4.0%	5.6%	55.6%	34.9%	100.0%
		83.3%	77.8%	64.8%	40.4%	54.3%
	2.		1	27	25	53
			1.9%	50.9%	47.2%	100.0%
			11.1%	25.0%	22.9%	22.8%
	3		1	6	16	23
			4.3%	26.1%	69.6%	100.0%
			11.1%	5.6%	14.7%	9.9%
	4	1		5	19	25
		4.0%		20.0%	76.0%	100.0%
		16.7%		4.6%	17.4%	10.8%
	5				1	1
					100.0%	100.0%
					.9%	.4%
	6				3	3
					100.0%	100.0%
					2.8%	1.3%
	8				1	1
					100.0%	100.0%
					.9%	.4%
Total		6	9	108	109	232
		2.6%	3.9%	46.6%	47.0%	100.0%
		100.0%	100.0%	100.0%	100.0%	100.0%

E-Communication Questions

Table 10

Distribution of Students by "Sending or Reading e-mails"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Never	10	4.3	4.3	4.3
	2 Rarely	51	22.0	22.0	26.3
	3 Sometimes	110	47.4	47.4	73.7
	4 Always	61	26.3	26.3	100.0
	Total	232	100.0	100.0	

Table 11

Distribution of Students by "Chatting with Friends Online"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Never	8	3.4	3.4	3.4
	2 Rarely	24	10.3	10.3	13.8
	3 Sometimes	78	33.6	33.6	47.4
	4 Always	122	52.6	52.6	100.0
	Total	232	100.0	100.0	

Table 12

Distribution of Students by "Making Friends Online and Meeting them"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Never	79	34.1	34.1	34.1
	2 Rarely	63	27.2	27.2	61.2
	3 Sometimes	73	31.5	31.5	92.7
	4 Always	17	7.3	7.3	100.0
	Total	232	100.0	100.0	

E-Entertainment Questions

Table 13

Distribution of Students by "Sending e-cards and Fun Pages"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Never	40	17.2	17.2	17.2
	2 Rarely	57	24.6	24.6	41.8
	3 Sometimes	103	44.4	44.4	86.2
	4 Always	32	13.8	13.8	100.0
	Total	232	100.0	100.0	

Table 14

Distribution of Students by "Playing Games Online"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Never	68	29.3	29.3	29.3
	2 Rarely	74	31.9	31.9	61.2
	3 Sometimes	59	25.4	25.4	86.6
	4 Always	31	13.4	13.4	100.0
	Total	232	100.0	100.0	

Table 15

Distribution of Students by "Finding Information about Movies, Music, Leisure Activities"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Never	11	4.7	4.7	4.7
	2 Rarely	25	10.8	10.8	15.5
	3 Sometimes	100	43.1	43.1	58.6
	4 Always	96	41.4	41.4	100.0
	Total	232	100.0	100.0	

E-Information Questions

Table 16

Distribution of Students by "Reading Online News about Events in Lebanon and World"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Never	44	19.0	19.0	19.0
	2 Rarely	60	25.9	25.9	44.8
	3 Sometimes	96	41.4	41.4	86.2
	4 Always	32	13.8	13.8	100.0
	Total	232	100.0	100.0	

Table 17

Distribution of Students by "Downloading an Online Study Aid"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Never	78	33.6	33.6	33.6
	2 Rarely	70	30.2	30.2	63.8
	3 Sometimes	69	29.7	29.7	93.5
	4 Always	15	6.5	6.5	100.0
	Total	232	100.0	100.0	

Table 18

Distribution of Students by "Exchanging Class Notes with Classmates Online"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Never	90	38.8	38.8	38.8
	2 Rarely	61	26.3	26.3	65.1
	3 Sometimes	65	28.0	28.0	93.1
	4 Always	16	6.9	6.9	100.0
	Total	232	100.0	100.0	

Students' Attitudes Towards the Internet

Table 19

Distribution of Students by "Learning Something Useful from Research on the Internet"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 Disagree	16	6.9	6.9	6.9
	1 Agree	216	93.1	93.1	100.0
	Total	232	100.0	100.0	

Table 20

Distribution of Students by "Internet is as Important as Other Research Tool"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 Disagree	14	6.0	6.0	6.0
	1 Agree	218	94.0	94.0	100.0
	Total	232	100.0	100.0	

Table 21

Distribution of Students by "Prefer Using Internet to do Research"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 Disagree	29	12.5	12.5	12.5
	1 Agree	203	87.5	87.5	100.0
	Total	232	100.0	100.0	

Table 22

Distribution of Students who think "Internet Contains Mostly Useless Information"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	26	11.2	11.2	11.2
	Disagree	206	88.8	88.8	100.0
	Total	232	100.0	100.0	

Table 23

Distribution of Students who Think "Internet is too Difficult to Use for School"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	14	6.0	6.0	6.0
	Disagree	218	94.0	94.0	100.0
	Total	232	100.0	100.0	

Table 24

Distribution of Students who Think the "Internet is Easier to Use than the Library"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 Disagree	23	9.9	9.9	9.9
	1 Agree	209	90.1	90.1	100.0
	Total	232	100.0	100.0	

Table 25

Distribution of Students who "Hate the Internet"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	7	3.0	3.0	3.0
	Disagree	225	97.0	97.0	100.0
	Total	232	100.0	100.0	

Table 26

Distribution of Students who Think they "Hate Using Internet for Educational Projects"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	32	13.8	13.8	13.8
	Disagree	200	86.2	86.2	100.0
	Total	232	100.0	100.0	

Table 27

Distribution of Students who Think the "Internet Makes Learning Fun"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	42	18.1	18.1	18.1
	Agree	190	81.9	81.9	100.0
	Total	232	100.0	100.0	

Table 28

Distribution of Students who "Get Information from Books and Internet Equally"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	74	31.9	31.9	31.9
	Disagree	158	68.1	68.1	100.0
	Total	232	100.0	100.0	

Table 29

Distribution of Students who "Wish They Don't Have to Use Internet for Educational Purposes"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	39	16.8	16.8	16.8
	Disagree	193	83.2	83.2	100.0
	Total	232	100.0	100.0	

Table 30

Distribution of Students who "Wish More Teachers Assign Internet-based Education"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 Disagree	58	25.0	25.0	25.0
	1 Agree	174	75.0	75.0	100.0
	Total	232	100.0	100.0	

Table 31

Distribution of Students who "Enjoy Subjects Integrating Internet more than Subjects that Don't"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 Disagree	68	29.3	29.3	29.3
	1 Agree	164	70.7	70.7	100.0
	Total	232	100.0	100.0	

Table 32

Descriptive statistics about "Teachers' Participation in Training Sessions to Practice Integrating Internet in School Subjects"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Never	64	27.6	27.6	27.6
	2 Don't know	127	54.7	54.7	82.3
	3 Sometimes	36	15.5	15.5	97.8
	4 Always	5	2.2	2.2	100.0
	Total	232	100.0	100.0	

Table 33

Descriptive Statistics for "Teacher Use of other Instructional Tools in Class, (video, audio, TV)"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Never	26	11.2	11.2	11.2
	2 Don't know	20	8.6	8.6	19.8
	3 Sometimes	162	69.8	69.8	89.7
	4 Always	24	10.3	10.3	100.0
	Total	232	100.0	100.0	

Table 34

Distribution of Students by Groups Towards a New Value System (q7...q15)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	9	2	.9	.9	.9
	11	1	.4	.4	1.3
	12	1	.4	.4	1.7
	13	4	1.7	1.7	3.4
	14	3	1.3	1.3	4.7
	15	6	2.6	2.6	7.3
	16	4	1.7	1.7	9.1
	17	10	4.3	4.3	13.4
	18	7	3.0	3.0	16.4
	19	10	4.3	4.3	20.7
	20	20	8.6	8.6	29.3
	21	15	6.5	6.5	35.8
	22	21	9.1	9.1	44.8
	23	16	6.9	6.9	51.7
	24	18	7.8	7.8	59.5
	25	10	4.3	4.3	63.8
	26	23	9.9	9.9	73.7
	27	20	8.6	8.6	82.3
	28	16	6.9	6.9	89.2
	29	7	3.0	3.0	92.2
	30	11	4.7	4.7	97.0
	31	3	1.3	1.3	98.3
	32	2	.9	.9	99.1
	33	1	.4	.4	99.6
	34	1	.4	.4	100.0
	Total	232	100.0	100.0	

Table 35

A Paired T-Test between Teachers' Assigning of Internet-based Material, Attitudes and Internet Integration in the Curriculum

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Teacher assign online research - Teacher eagerness about using internet	-1.05	.48	.03	-1.11	-.99	-33.325	231	.000
Pair 2	Teacher assign online research - Teacher clarifying internet-based material	-.83	.51	.03	-.89	-.76	-24.509	231	.000
Pair 3	Teacher assign online research - Teacher discussing internet-based material	-.97	.57	.04	-1.04	-.90	-25.961	231	.000
Pair 4	Teacher assign online research - Teacher participation in internet training sessions	-1.33	.79	.05	-1.43	-1.23	-25.514	231	.000
Pair 5	Teacher assign online research - Teacher uses other instructional tools in class	-2.20	.88	.06	-2.31	-2.08	-37.839	231	.000

Table 36

Pearson Correlation Test of Students' Attitudes Towards the Internet and Teachers' Attitudes, as Perceived by Students

		ATEUI (Sum q16...q28)	Teachers' Attitudes as Perceived by Students (q30...32)
ATEUI (Sum q16...q28)	Pearson Correlation	1.000	.040
	Sig. (2-tailed)	.	.543
	N	232	232
Teachers' Attitudes as Perceived by Students (q30...32)	Pearson Correlation	.040	1.000
	Sig. (2-tailed)	.543	.
	N	232	232