

EXPLORING ATTITUDES OF TEACHERS AND STUDENTS TO THE  
INTEGRATION OF TECHNOLOGY IN EFL CLASSROOMS

by

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## **Dedication**

I owe all my work to the souls of my deceased mother and father, my wife, and my four angels Louai, Qusai, Qutaiba, and Raneem., and to my secondary school teacher Mr. Masaoud Jebahi. I love you all.

## **Abstract**

Much available research stresses the role positive teachers' and students' attitudes play in the success of technology integration. A large body of research has been conducted in the region to investigate the attitudes of teachers and students to the integration of technology in the EFL classroom. However, most researchers are university teachers who are not familiar with the environment they are studying. Most researchers concluded that the majority of students and teachers hold positive attitudes to using computers in the classroom. Many of them reported the gap between what teachers say and what they actually. This study may be one of those few studies, if any, conducted by a high school teacher to study teachers' and students' attitudes to technology integration. In this research questionnaires, interviews, and classroom observation forms were used for data collection. Subjects for the study included 14 teachers of different cultural backgrounds, and 429 Emirati students in a technology-based high school for boys in Al-Ain, UAE. The findings confirmed that most students, and teachers hold positive attitudes to the use of technology as a learning tool. Classroom observations also showed a clear alignment between teachers' attitudes and their use of computers in teaching. The findings also indicated that there is much to be done, and that technology integration is an on-going process. The researcher identified challenges that teachers and students faced, and brought them to the attention of administrators, and decision makers to play their roles in providing help and support.

**Search Terms:** integration, attitude, technology, support, methodology, connectivity.

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## Chapter 1: Introduction

Using computers in education in the 1980s was more concerned with the use of software applications in the classroom, and the most commonly used application was word processing. The great support for using computers in schools began in the late 1980s, as Moursund (cited in Fingal, 2009) put it:

If our technologically oriented society continues, then eventually computers will be commonplace. Children will grow up in homes, schools, and neighborhoods in which everyone uses computers. Computerized information retrieval, word processing, and problem solving will be as widely used as paper and pencil techniques are today. (2009, p. 27)

The 1990s witnessed the birth of the Internet, which revolutionized the use of computers in education. This new medium allowed both teachers and students to connect with other people around the globe, gather online information, and have access to novel communication formats such as email (Fingal, 2009). The focus therefore moved from computers to software, which became the main type of educational technology in the 1990s (Fingal, 2009). By the end of the 1990s, many researchers anticipated that technology would quickly get into every class and would be implemented in all educational levels. In fact, many school systems worldwide started implementing curriculum policies that enhanced the use of technology to support student learning.

The success of technology in different domains, and the belief in its importance to move countries to the 21<sup>st</sup> century, has led many governments to allocate research funds to investigate best ways of introducing and enhancing technology use (Kleiman, 2001). The first steps of the educational reform consisted of investing significant amounts of money into purchasing hardware and software to equip schools with state-of-the-art technology (Sivin-Kachala & Bialo, 2000). Like most countries, the UAE opted to reform education and bought thousands of computers for that purpose.

In most schools in the Emirate of Abu-Dhabi, the use of computers in teaching is limited to the use of one single desktop in each classroom. The basic use of that computer is to make presentations, play audio files, show video clips, but is rarely connected to the Internet. There are, however, two or more computer labs in each school, depending on the number of students, fitted with 20 to 25 computers. These computers are generally controlled by applications that monitor students' access to websites. Students' visits to the labs are very rare, given the complicated process of

booking these facilities and the rigid school schedules. In most cases, IT teachers allow little room for other teachers to use the labs.

The Institute of Applied Technology (IAT), a semi-governmental educational facility, started in 2005 by Emiri Decree No. (32). The decree specified that the institution has full financial and administrative independence as it is wholly owned by the government of Abu-Dhabi. Ten articles described the different functions attributed to the Board of Trustees who are supposed to monitor the project. According to the decree they were allowed to delegate authorities to the Managing Director (MD) the Executive Committee, and the Senior Management.

Since the start of the IAT, it has always had a dynamic system. It is now an umbrella under which seven high schools in five different cities exist. It consists of 7 different Applied Technology High Schools (ATHS) in 5 Emirates with a total student population of 5400. IAT is also running four academies: Al-Ain International Aviation Academy, Abu-Dhabi Polytechnic, Fatima College of Health and Science, and Al-Rawdah Academy. Schools differ in size and number of students, but they share the same vision which consists of empowering students with technological skills to build the knowledge required for 21<sup>st</sup> century jobs. The purpose of the technology is to help teachers move to new pedagogical strategies away from their traditional convictions and habits in which the students were receivers of information to a knowledge-building environment where students are actively involved in the learning process (Donahue, Fox & Terrace, 2007). This, however, cannot be achieved without a clear vision.

According to Anderson and Dexter (2000), the vision provides teachers with exactly what they need to know about technology use in the classroom. Some researchers argue that a school's technology integration vision is essential (Anderson & Dexter, 2000). Supported by research findings (Bangkok, 2004; Gulbahar, 2005), a technology plan has been developed to monitor the effective use of technology for students, teachers, and administrators. Accordingly, a One-to-One computer initiative has been implemented since 2007.

The one-to-one learning environment provides all students and teachers with Mac laptops of the same configuration with minor differences to meet the needs of the different engineering subjects. A large body of literature emphasizes that laptops help create a cooperative learning environment where students engage in problem solving

activities (Fairman, 2004). Furthermore, a change in teachers' roles is also observed, as they tend to act primarily as coaches (Rockman, 2000). Students do not pay directly for their laptops, but the school finance department deducts regular installment from the students' monthly grants (DHs 750). All the school is connected by a wireless Internet that all students and teachers can access. Most teachers are full administrators of their laptops, but no student has that privilege. All maintenance and software installation is guaranteed by the school technical support personnel. When students graduate from grade 12, the school technicians format the laptops and give them back to the students. School regulations are strict so when a student damages his laptop he has to buy exactly the same brand from the school.

There are many conditions that have to be met for technology to be implemented in teaching. Though infrastructure comes first, there has always been a need to provide teachers with administrative support. A successful technology integration program relies primarily on strong leadership that considers technology as part of the school culture (Anderson & Dexter, 2000; Tearle, 2003). School culture is generally considered a set of collective values that school teachers, administrators, and support services share (Maslowski, 2001; Devos, Bouckenooghe, Engels, Hotton & Aelterman, 2007). A carefully selected school council runs each individual school. It includes the principal, two vice principals (VPs): one academic and one administrative. The administrative VP is in charge of all the support system and the students while the academic VP checks teachers' achievement and follows up on all academic issues with senior teachers.

Recruitment of new students starts in February, and a committee from the students' service department visits the schools and talks to local students. Registration is completed online and all students sit for a written test of English and Math. They also take an interview with teachers of English and Arabic. Students who qualify receive notice through telephone messages, and then they visit the schools with their parents to sign the school policy document that explains all the rights and duties of the students. At the beginning of the academic year, students are given an orientation session from the student service department, and the student council. In the first week students are given their laptops and Ipads and are assigned to different classes. The top students are put in one class called the Advanced Science Program (ASP).

Students start grade 9 with 13 periods of English weekly, and the number goes down to 7 periods in grade 12. Students take two periods of 45 minutes in a row for each subject to provide enough time for technology implementation. Unlike government schools, students have to move to different classes since each teacher is assigned a classroom that has to reflect the subject he/she is teaching. Every classroom, however, has a datashow, a Smart Board, a laptop and an Ipad. Teachers use an application called “Airserve” to connect the Ipad to the laptop and broadcast on the Smart Board. Students can also broadcast their work with the teacher’s permission. All the teaching staff have visa cards given to them and a special sum of money to buy 11 applications that the course developers have recommended.

For every grade level, students take two periods (one block) of project work. In these projects students explore different topics presented by the curriculum department. Students use computers to explore the topic, collect information, share it with peers, work in groups and also individually, and finally present their findings. These projects vary from designing a brochure, to designing a hotel. Students use all their computer skills, and get the support of their peers in the groups and from teachers to achieve the projects. This is in line with the findings of Yang and Yoo (2003) who reported that computers are valid tools in project work as they help students work on complex tasks, force them to use their higher-order thinking skills and obtain deeper understanding of the content. Every project brings new challenges, exposing the students to more demanding tasks which activate more thinking skills

In the Applied Technology High School for boys, in Al-Ain, there are 597 students from grades 9 through 12. The total number of teachers is 65 and the English teaching staff is made up of 15 teachers from seven different nationalities. English is the medium of instruction for all taught subjects, except for 2 hours of Arabic and Islamic studies weekly. The students study all the subjects specified in the Ministry of Education curriculum but with the addition of extensive English programs. They also study some Engineering subjects for the first two years, but in the final two years they specialize in subjects based on their choice and skill. Mechanical engineering, electrical engineering, and IT are offered to students.

Using computers is mandatory in all classes to motivate students, provide them with the most up-to-date information, and create a positive environment that aligns with the vision of the management, meets the needs of individual students, and

encourages the learners to be responsible for their own learning. However the use of computers did not start in a structured way, and teachers on their own managed to find resources, share material, and build websites. Time and training empowered teachers with technological expertise, and they started designing more interactive materials, and using reliable, interactive websites. Many use Edmodo which provides interaction, the sharing of materials and a database for all submitted assignments. It has recently been improved to include a quiz maker. All marks and comments are made visible to each student, and parents have their own passwords to check their children's progress. A similar, but more robust, website is Moodle which provides an excellent virtual learning environment. It is not easy to administer, so some teachers have to rely on the help of more technology skilled colleagues if using Moodle. The last shared website was Glogster, and unlike the other websites, this provides the students with an easy-to-use page on which they can show all their work. Texts, videos, pictures, sounds, and all possible files can be uploaded on one page, making it look like a professional website, or a magazine cover page.

Starting from this year (2013) two new improvements have been made, and the management invested in purchasing e-books for all subjects, and in designing and monitoring a shared platform ([www.plato.iat.ac.ae](http://www.plato.iat.ac.ae)). The use of these sites is mandatory as they form part of the teachers' evaluation reports. Senior teachers, principals, and academic advisors have access to the level of traffic as well as the activities teachers use on these websites. Because they are new and many teachers meet challenges using them, they are still using other websites which are more familiar to them.

A human resources department is in charge of choosing teaching and administrative staff who show understanding of and support for technology integration. Teachers who join the campus are given an orientation period of seven days before schools starts. They also get a preliminary course on how to use available technologies: Smart-Board use, online student attendance system, and how to plan and upload lessons on the school platform. Teachers are also formally instructed on how to pursue Constructivist Methodology. New teachers spend a six-month probation period within which they have to get an IC3 computer certificate. They are normally visited twice each term; once by the senior teacher and the other by the academic advisor and/or principal; at-risk teachers, however, are visited more often. Their reports play a major role in securing their job or having it terminated.

Experienced teachers are visited once a year to ensure that they are always teaching in line with the school philosophy. A regular weekly meeting with the senior teacher is used to share ideas, solve individual problems and plan for future activities.

Classroom peer visits are provided for teachers who need help, and to provide colleagues with good models of successful technology use. Each grade level has a coordinator who liaises between the teachers in planning. Generally, each teacher plans for one week, sends his/her suggestion to the others, gets feedback, and edits the final version.

Evaluation is ongoing, and a mixture of summative and formative assessment is used. While the formative evaluation is prepared by the school teachers, the summative evaluation is prepared by an assessment unit, which is also responsible for collecting and analyzing data. Comparison between campuses is always provided and students at-risk identified. Advice on remedial plans and follow up activities is discussed within each school. Two extra hours are given weekly to students at-risk, and a by-weekly Saturday Activity Program for Extra-curricula & Tutoring (SAPET) program is designed to help this group of students. To graduate, students need to get band 5.5 in the Academic version of the International English Language Testing System (IELTS).

In 2008, the IAT signed an agreement with AdvanceEd , an American, nongovernmental, nonprofit accreditation organization which helps schools all over the world to provide quality teaching. This institution has offered guidance on planning, training for representatives in all the schools, and a rigorous follow up process. In the first visit the IAT system was accredited after a three-day international review. In 2009, AdvanceEd started paying visits to individual schools to identify strengths and weaknesses and report their findings to the Board of Trustees. Their remarks motivated me to explore the kind of attitudes teachers hold towards technology integration.

### **Statement of the Problem**

Exploring the attitudes of students and teachers towards the integration of technology is a useful procedure for educators and decision makers to identify areas for improvement, and to guide the future development plans of their institutions. These attitudes can be inferred from a range of regular institutional activities, many of which are relatively informal. For example, in the technology-rich school where I

work, the Institute of Applied Technology, Al-Ain, weekly academic meetings as well as principal and supervisor report visits provide regular feedback about the state of technology integration in the classroom. These meetings and the visits generally report positive attitude towards the use of computers in the classrooms. Using computers to find information from the Internet, to communicate with peers, to complete tasks, and to work on projects is a common practice in most departments.

However, last year the Institute of Applied Technology was visited by an American accreditation body (AdvancEd ), which reports to the Board of Trustees, and a yearly regional Quality Assurance Review (QAR) team was sent to our school to check whether we were in line with our mission and vision (to integrate technology in education and to prepare the students for 21<sup>st</sup> century careers), and to check our progress on facilitating students' learning. A one-and-a-half day visit took place in November, 2012, and after visiting 6 classes, interviewing 8 teachers and 5 head teachers, and over 15 students, the QAR team concluded that:

- Some teachers have negative attitudes to technology integration, and use old teaching methodologies that do not support the use of computers for learning.
- Some teachers are reluctant to use computers because they lack the necessary knowledge to do so.
- Students are bored because of the quality of computer activities teachers assign.

Despite these findings no formal investigation or research study has ever been undertaken to check the accuracy of these conclusions at the Institute of Applied Technology, Al Ain. This research study will investigate the topic of technology integration to provide answers that will be of relevance to the English Department for future planning. I have therefore identified three questions that my research will address:

1. What are the attitudes of teachers to the use of computers for teaching?
2. What are the attitudes of students to the use of computers for learning?
3. To what extent do teachers' classroom practices reflect their attitudes toward the use of computers for teaching?

### **Purpose of the Study**

Because of constant development in technology, and the interest of school leaders and decision makers in adopting new technologies, it is necessary that students' and teachers' perceptions of technology use be regularly examined and monitored. There are already some studies that have addressed the attitudes of students and teachers towards the integration of technology in UAE schools.

As a teacher of English at the Applied Technology High School, Al Ain, I am interested in finding out whether the conclusions the QAR reported apply to the English Department or not. It is also an opportunity to compare what teachers preach and what they actually teach. Teaching methodologies, professional development, and barriers obstructing technology integration, will also be studied.

### **Significance of the research**

Much of the available research related to investigating the attitudes of teachers and students has taken place in universities. Far less research has taken place in secondary schools, especially in the UAE, and where it has occurred, it is generally conducted by university teachers who have different backgrounds from the environment they are studying. By conducting this research I hope to be able to understand the attitudes of teachers of English and their students towards the use of technology at the Applied Technology High School in Al Ain. I will endeavor to find out whether the teachers are effectively implementing technology in the classrooms. I will also try to identify obstacles to technology implementation and provide reliable information to aid decision makers to take appropriate measures. My research will also be an opportunity to contribute to the fledgling research community in the UAE by adding this small contribution to the research field. Although this research is a first at the Institute of Applied Technology in Al Ain, it will hopefully make clear the value of research to my colleagues and motivate them to also take part in research communities. Finally, since the school management and leadership have supported my study and have shown great interest in obtaining reliable findings, the results of my research may push administrators and decision makers to update the classroom evaluation techniques and to support the needs for constantly updating teaching practices.

## **Overview of the Chapters and Appendices**

Chapter 1 has described the environment where the study took place. It has also provided information about the purpose of the study, the research questions, and the significance of the research.

Chapter 2 reviews the attitudes of teachers and students towards the use of technology in the classroom. Moreover, it includes information about the role of technology in schools. Then the chapter defines the gradual process of technology adoption. In addition to that, the chapter emphasizes the role of meeting the needs of individual students. It finally concludes that adequate professional development opportunities be provided for the teachers to help them implement technology effectively, and suggests that follow up is the only useful way to keep the process up and running.

Chapter 3 provides a detailed description of methodology of the study. It provides information about the participants, specifying the number, gender, teaching experience, nationality, educational qualifications, and familiarity with using technology in instruction. Further, it includes a detailed description of the instruments used to collect the data, and how they will be used.

Chapter 4 describes the findings obtained from sorting out the data found in the surveys, interviews and the class observation. These findings are interpreted in relation to the research questions.

Chapter 5 summarizes the major findings of the study, and offers some recommendations to teachers, administrations, and decision makers to help them integrate technology effectively. It also presents the limitations of the study, and gives suggestions for further research.

There are seven appendices in this research. Appendix 1 is the teachers' attitude survey, and includes four open-ended questions. Appendix 2 provides a sample of the teachers' interview questions. Appendix 3 presents the teachers' classroom observation form. Appendix 4 is the students' attitude survey, with three open-ended questions. Appendix 5 illustrates a sample of the students' interview question. Appendix 6 presents teachers' responses to the open-ended questions. Appendix 7 displays teachers' survey results. Finally, Appendix 8 contains samples of interview transcripts.

## **Chapter 2: Review of the Literature**

This chapter focuses on the importance of introducing computers in the classroom. Moreover, it investigates the attitudes of teacher and students towards the use of technology in the classroom. Further, it shows the gradual nature of technology integration, and the need to focus more on developing teaching methodologies that promote a healthy environment for technology adoption. Finally, challenges that teachers and students face are identified and the role for teacher support, professional development, and follow up are explained.

### **Using Computers in the Classroom**

The spread of technology has affected every aspect of our life (Tapscott, 2009), and the large bulk of information available has, according to Rosen (2010), “immersed current generations in a media diet filled with entertainment, communication, and any form of electronic media” (p. 2). To replicate the success technology has achieved in business, educators and administrators have focused on purchasing new hardware and software to bring the digital experience from the real world to the classroom (Bower, 2010; Cuban, 2001). But there is more to technology integration than just purchasing hardware and software (Cuban, 2001), and other factors such as teachers’ readiness for change, the new roles for teachers, and the role of teaching methodologies also need to be considered.

Cuban (2001) notes that computers have been “oversold,” but have not been effectively integrated into classrooms believing that only few teachers have shown an efficient integration of computers for instructional purposes (Cuban, 2001; Green, 2001). Hoter (2000) adds that teachers’ technology knowledge does not necessarily guarantee that they will integrate it into their lessons in the classroom. Even in those contexts where technology is used, reports tend to show that teachers are not using it in ways that help students in their learning (Anderson & Becker, 2001; Cuban, 2001; McCannon & Crews, 2000). The difficulty of integrating technology is reported by Hussein (2010):

Integrating technology into teaching and learning is a difficult task for most classroom teachers in UAE schools because they are not prepared to use technology in classrooms so they are required first to learn how to use the technology and then conceptualize their approach to teaching. The teachers

may lack personal experience with technology and this presents an additional challenge. (p. 71)

Some of the factors that impede technology integration are the lack of teacher preparation in technology use, and the lack of personal experience with instructional technologies (Hussein, 2010), inappropriate and mechanical use of technology (Dawson, Bull & Swain, 2000), and the lack of training as Keiper, Harwood, and Larson (2000) note:

If teachers are going to perceive that the benefits of using the computer outweigh the obstacles, they need to understand how to lead a classroom with it, assist students as they use it, and have evidence that it will work with students. (p. 577)

### **Teachers' Attitudes to the Integration of Technology**

Extensive literature exploring the attitudes of teachers towards the use of technology in the classroom has uncovered positive attitudes (Albirini, 2005; Almekhlafi & Almeqdadi, 2008; Ismail, Almekhlafi & Almekhlafi, 2010) as well as negative attitudes to integrating technology in the classroom (Anderson & Becker, 2000; Cuban, 2001; Hoter, 2000; Hussein, 2010; Li, 2007; McCannon & Crews, 2000). A large bulk of research links teachers' attitudes to the actions and decisions they make in the classroom (Cuban, 2001; Fullan, 2003; Guskey, 2002; Ringstaff & Kelley, 2002). These attitudes have a great impact on teachers' adoption of technology and are generally consistent with their instructional practices and teaching beliefs (Niederhauser & Stoddart, 2001). More studies tied frequent and effective computer use to the move towards a constructivist, student-centered methodology (Becker, 2000; Becker, 2001; Ravitz, Becker, & Wong, 2000; Matzen & Edmunds, 2007). Other studies, however, did not report any relationships between the amount of technology integration in the classroom and the teachers' adoption of a student-centered methodology (Cuban, Kirkpatrick, & Peck, 2001; Judson, 2006; Wang, 2002; Windschitl & Sahl, 2002). These researchers concluded that the teachers' use of technology did not conflict with their existing teaching practices.

Research related to technology implementation took place in many parts of the world. In Canada, for example, and in an attempt to explore the teachers' attitudes to technology integration in a Canadian school, Li (2007) conducted a study with 575 students, aged between 7 and 12, and with 15 teachers. The results showed that

teachers held negative attitudes towards using computers in instruction. However, the same the study showed that the learners had great enthusiasm for the integration of technology in their classes. A study by Spires and Turner (2008) confirmed Li's findings and concluded that the teachers do not have the same technology skills in computer use as their students, nor do they understand the value of the technologies that their students favor.

In contrast to these findings, research related to teachers' attitudes to the use of technology in instruction in Arab countries tends to provide different results. To investigate the attitudes of EFL teachers in Syria, Albirini (2005) conducted a study of 887 high school teachers (214 males; 673 females) in the city of Homs during the academic year 2003-2004. Both qualitative and quantitative tools were used to ensure reliability of the findings. Albirini (2005) found that the majority of the participants (82.1%) had positive attitudes towards the advantages of computer integration in the classroom. The results also showed that 73.5% of the teachers believed in the advantages of using computers over traditional methods of instruction, and the same number (73.5%) assumed that computers motivated students towards the subject matter. In the same study, 91.1% considered computers to be useful for language learning, and 90.1% reported liking and enjoying technology in education. Finally, 83.3% described computers as reliable educational tools worthy of every single minute of classroom time spent on computer implementation.

For the same purpose Almekhlafi and Almeqdadi (2008) conducted a study that included 100 participant teachers from two model schools (Grades 6-9) in the Al-Ain Educational Zone in the Emirate of Abu Dhabi, United Arab Emirates. Both target schools are well equipped with technology infrastructure for teachers' use. Sixty of the participants were male, while forty were female teachers. The teachers had teaching experience that ranged between 5 and 15 years, and they all said they used technology in their EFL classes, as it is a common practice in model schools. The researchers used multiple research tools to understand how teachers perceived technology integration, and whether attitudes had any effects on daily classroom practices.

Moreover, the findings of Almekhlafy and Almeqdadi (2008) revealed that, regardless of gender, teachers at UAE Model Schools believed in their abilities and competencies to successfully use technology in their classrooms. The researchers attributed this attitude to the role of technology integration in teacher evaluation. A

close study of the results of individual items showed that the highest mean scores were related to teachers' skills and ability to use hardware and software, and to use technology to search for, evaluate, and collect information from different sources. In addition, Almekhlafy and Almeqdadi (2008) showed that, in spite of the various barriers teachers encountered (e.g., negative teacher and parent attitudes towards technology integration in instruction, large number of students per class, lack of technical and financial support, professional development, and motivation), they managed to integrate technology in their classes with different degrees of success.

Similarly, Ismail et al. (2010) conducted a study during the first semester of the academic year 2008-2009 in 67 schools in 5 Emirates in the UAE (Abu-Dhabi: 25 schools; Fujairah: 12 schools; Sharjah: 15 schools; Ajman: 5 schools and RAK: 10 schools). A combination of quantitative and qualitative data gathering techniques was employed. A total number of 621 K-12 teachers of both English and Arabic took part in the study and answered the questionnaire. The study showed that the majority of the teachers (82.80%) had little or no competencies in handling most of the basic computer functions (installing software, removing viruses, using printers, basic troubleshooting, keeping and managing grades, using organization tools).

Finally, the findings reported by Ismail et al. (2008) emphasized teachers' perceptions regarding the importance of technology integration in first and second language instruction. One of the important results of this study is that teachers expressed "the unavoidable impact of technology on their own teaching practices which in turn may promote students' learning" (Ismail et al. p. 53). Equally important was that teachers showed their enthusiasm to accelerate technology integration in their classrooms to improve language teaching and learning. Time and training were seen by most teachers as prerequisites for more technology integration. The emphasis on time and training as preconditions to better integrate technology in the classroom was reported by Hussein (2010, p. 70) who stated, "Today, there are very few UAE classroom teachers that use computers in their classrooms. The integration of technology into the classrooms may be hindered by a lack of resources and trained teachers."

### **Students' Attitudes to the Integration of Technology**

Unlike teachers' opposing attitudes to computer use in instruction, almost all research available reports positive student attitudes to the use of technology for

learning purposes (Al-Shammari, 2008; Awad, 2008; Gunn & Kassas, 2010; Mohammad & Al-Karafi, 2008; Mynard & Troudi, 2008). To explore the students' attitude to the use of technology to help them learn English at the American University of Sharjah (AUS) in UAE, Cindy Gunn and Sarah Kassas conducted a research project in 2009 at the American University of Sharjah. Out of 157 students who joined the Intensive English Program (IEP), 57 replied to the online survey. Gunn and Kassas (2010) showed that the majority of students spent from 2 to 10 hours on computers daily. Most of this time was spent on the Internet. The majority of the students (95%) acknowledged the role technology played in allowing them to finish their homework assignments, and almost the same percentage of students showed favorable attitudes to more technology integration in the classroom. The majority of the students also reported the importance of technology in developing specific skills. According to Gunn and Kassas (2010, p. 27), "overall, the study indicates that the majority of the students view technology as an important part of their language learning process."

A similar study in the UAE was conducted by Mynard and Troudi (2008). The researchers conducted their study at a women's university in which the students used chat technology for language learning. The sample studied consisted of ten first-year, female students aged between 18 and 26 at an English foundation course. All students were UAE nationals, with Arabic as their first language, and an intermediate level of English language proficiency. The course lasted for 9 weeks in which students had 5 one-hour writing classes each week. Positive attitudes towards using technology in learning in UAE similar to those found by Gunn and Kassas (2010) were reported by Mynard and Troudi (2008). The results of the small study that they conducted indicated that the students considered a chat room to be an appropriate and useful tool for learning. All the students participated fully and felt that it was an easy environment in which to communicate even if they were normally shy. Also, students in both studies said that they found the activities enjoyable. They perceived chat activities to be useful for learning English and motivating for learners mainly because they were able to connect with people from other cultures.

In Jordan, many researchers are also interested in exploring student's perception of technology use in learning. For instance, Awad (2008) conducted a study in 12 public schools (grades 5 to 11) selected by the Ministry of Education to participate in a pilot project to introduce e-learning. The subjects of the English

Interactive Online (EIO) study consisted of 206 native speakers of Arabic (84 males 122 females), who were studying English as a foreign language. Results showed that 76% of the students viewed Internet use as important for education. Though these students had a limited use of the Internet with only 10% who used it consistently, and only 12% who accessed it daily, the majority held positive attitudes as to its role in learning. The researcher concluded that students' positive attitudes were not necessarily related to computer skills, and computer use. Another research study in Jordan conducted at the Hashemite University (HU) by Mohammad and Al-Karabi (2008) showed that Jordanian students like the idea of using computers. However the investigation results revealed that the majority of the students (85%) used the Internet 5 hours or less in the week, while only 1.8% used it for more than 15 hours weekly. These results are a clear indication that HU students spend little time on Internet use in education, which was attributed to students' low computer skills. The most important topics for which students used the computers included searching data (84.8%), and using the Internet for educational purposes (77.8%). Again, regardless of the limited use and the low computer skills, the students interviewed showed interest in Internet technology and using its applications as learning tools and in their public life.

Finally, in Saudi Arabia, Al-Shammari (2008) investigated the attitudes of EFL learner of English towards the use of CALL (Computer Assisted Language Learning), and tried to identify the role of gender in shaping attitude. This study took place in the Institute of Public Administration (IPA), a Saudi government facility that offers a one-year intensive English language program to all students who are then supposed to progress to their major studies. The population of the reported study consisted of 1500 EFL students who graduated from high schools and joined the various IPA campuses. 578 students participated in the study, 126 (22%) females and 452 (78%) males. The same positive attitudes to technology use were reported by Al-Shammari as were found by Awad (2008), Gunn and Kassas (2010), Mynard and Troudi (2008). Regardless of their age, gender, and level all 578 students surveyed at the four IPA Universities in Saudi Arabia shared positive attitudes towards technology use in instruction. The researcher tried to relate the positive attitudes to the role technology plays in the life of the students.

## **The Process of Technology Adoption**

Integrating technology in the classroom changes the kind of relationship between the teacher and the students. According to November (2010, p. xi), “Adding technology to the classroom is the easy part. The difficult work is reshaping the relationship between teachers and students.” Groff and Hass (2008) note that the use of technology in the classroom helps develop a partnership between teachers and students. This partnership, Prensky (2010, p. 15) notes, “emphasizes the roles of each group, teachers and students, as different, but equal.”

Groff and Haas (2008, p. 12) observe that one of the biggest challenges of the new educational systems is that there is a huge gap “between traditional scholastic cultures and the culture of today’s learners.” The failure of schools is also reported by Prensky (2010, p. 2) who concluded that “[t]here is so much difference between how students and teachers think.” Prensky also added, “Increasingly we’re failing to deliver what students need in the ways they need it.” Regardless of the big considerable advance in technology, classrooms still lag behind and in most cases do not reflect the type of technologies flourishing outside the school and the way they are used (Groff & Haas, 2008). This gap between students’ expectations and classroom practice is reported by Marzano (2009):

Students are using personal technology tools more readily to study subject matter, collaborate with classmates, and complete assignments than they were several years ago, but they are generally asked to “power down” at school and abandon the electronic resources they rely on for learning outside of class. (p. 10)

To effectively integrate technology, teachers should start to explore other alternatives. As Allen (2010, p. 6), put it: “[W]e teachers must begin by setting aside our traditional ideas of how things should be done in the classroom and accept that our students really have grown up on a different planet.” According to Jayson (2010, p. 5), because the “younger students are immersed with technology, the educational system has to change significantly.” Similarly, Hoyer (2010, p. 2) has argued that “educators must reframe what they teach so that the students understand the significance of what they learn.” Accordingly, educators need to understand that “today’s children will not live in a world where things change relatively slowly, but rather one in which things change extremely rapidly” (p. 5). So whatever the subject educators are teaching, they have to teach it “with that future in mind” (p. 2) and see to it that individual student needs are taken into consideration.

Forcing teachers to adopt new teaching methodologies to accommodate new technologies could be counterproductive (Zhao & Cziko, 2001) since favored practices have been internalized after years of experience as a learner and teacher and may be resistant to change (Albion & Ertmer, 2002). Ertmer, Gopalakrishnan, and Ross (2001) concluded that though many teachers claimed to be adopting the constructivist methodology in teaching, and expressed positive attitudes towards using technology in the classroom, their practices did not align with their beliefs. Ertmer et al. (2001) described their practices as a mixed approach in which teachers move between a highly interactive, student-centered approach to basic drills and old teaching methods.

The successful integration of technology in the classroom depends more on “human and contextual factors than on hardware or software” (Valdez, et al. 2000, p. 4.). This change, however, takes time and effort. Knezek and Christensen’s (2002) study, for example, concluded that teachers follow a well-defined set of stages in the process of technology integration. The same idea is echoed by Ertmer (2005) who identified three recursive phases: (a) learning, (b) practice and feedback, and (c) continued development. In the first phase, the teacher attends the professional development program, learns the required skills about the new technology, how to implement it in class, and how to motivate students to use it to learn. In the second phase, the new teacher coordinates with experienced peers and mentors to get help in designing lessons that integrate the new technology, attends classes with teachers who are already familiar with the technology, video tapes lessons, and receives feedback from peers and mentors. In the last phase, more training programs are planned at a time most appropriate for the teacher to attend and to reflect on their own practices.

According to Zhao et al. (2002), introducing teachers to practices that are close to the existing practices will facilitate and accelerate technology infusion. Many researchers believe that teachers should be introduced to the basic uses of technology to make them feel secure and support the adoption process (Ertmer, 2001; Snoeyink & Ertmer, 2001-2002). More advanced strategies that will help teachers achieve a higher level of technology use can be added at proper time as teachers feel more confident with the technology (Barron, Kemker, Harnes, & Kalaydjian, 2003; Cuban et al. 2001; Newman, 2002). Otherwise, they will only adopt technology in a way that serves them to achieve their current goals without passing through a change in practice (Zhao & Cziko, 2001).

## **The Need to Differentiate Education**

Gardner (2009) emphasizes the use of technology as a tool to individualize instruction and to meet the needs of individual learners. As Gardner (2009, p. 33) put it, “It’s certainly easier to individualize if you have one or just a few youngsters in your charge. But particularly in the era of the new digital media, individualization has become much easier.” Individualization is only achieved through the change of instructional practices to serve the needs of different students (Willis & Mann, 2000).

For Tapscott (2009) there are at least four basic conditions needed to create a healthy learning environment:

- The education system should be student-centered.
- There is a great need for classroom interaction to create a safe learning environment.
- There is a need to differentiate and individualize leaning to meet the needs of individual students.
- Collaboration and cooperation are fundamental classroom practices.

Though these conditions are of major importance to technology integration, technological tools once used effectively will help maintain a positive learning environment.

Research showed that using individual computers in technology-supported environments enhanced students’ participation, skill-building, and motivation (Barak, Lipson & Lerman, 2006; Fitch, 2004; Stephens, 2005; Trimmel & Backmann, 2004). In such contexts, students have clear objectives for learning and work individually or in groups to solve problems (Jonassen, 2000). Teachers provide help and support by encouraging students to solve problems using their creative skills, but without becoming directly involved in finding solutions to the problems (Pedersen & Liu, 2003). In teacher-centered contexts, students do not have many options and work according to the recommendations and instructions of the teachers.

An extensive body of research has concluded that students with a great experience in technology use perform better than their peers in technology-based assignments and have more positive attitudes towards implementing technology in the classroom (Kay, 2006; Mercier, Barron, & O'Connor, 2006). Paradoxically, negative experiences with technology and problems encountered while on task make students more motivated and ready for future challenges (Holt & Crocker, 2000;). Other than

skill, age is important in shaping attitudes. According to Kay (2006), students in lower grades do not necessarily have great skills but show more positive attitude to technology use than older students.

One of the challenges faced by teachers who aim at differentiating learning and meeting the needs of every individual student, is students' distraction while on task (Olson, 2002). This behavior with all the negative results it draws has been reported in many studies (Biggs & Tang 2007; Bligh, 2000; Fried, 2008; Grace-Martin & Gay, 2001; Tesch, Coelho & Drozdenko, 2011). A study conducted by Tesch, Coelho, and Drozdenko (2011) investigated students' opinions about the effects of using computers in the classroom without teachers' supervision and guidance. The results identified 57 potential distracting factors including multitasking, sending and receiving emails, watching videos, playing games, chatting and discussion among neighbors. Fried (2008) studied students who spent a great deal of class time multitasking. The results showed a decrease in understanding course content, and lower levels of course performance. The decrease in class performance was also reported in a study conducted by Grace-Martin and Gay (2001). These researchers also concluded that a growing tendency towards non-learning behavior was observed. Multitasking, however, does not only affect one individual but spreads among friends and peers (Mueller, 2009). The frustration teachers experience when trying to implement technology use in these conditions is also covered by much research (Kladko, 2005; McWilliams, 2005; Szaniszlo, 2006; Young, 2006).

### **Teaching Methodologies**

Effective integration of technology will change the classroom to an environment that "will soon include technology as naturally as the teacher's desk" (Manthey, 2000, p. 31). The change, according to Dorman (2001, p. 32), will affect the teaching methodologies and the "approaches to learning will become less linear and sequential and more hypermedia-driven; less teacher-centered; and less instruction-orientated and more discovery-oriented. The teacher will be less of a transmitter, more facilitator." Computers in the classroom can alter pedagogy and encourage teachers create a constructivist learning environment (Huffman, Goldberg, & Michlin, 2003). The use of technology in the complex classroom environment should be viewed as a "gradual process of implementation and change" (Hall & Ford,

2001, p. 75). Change should be viewed as a process, not an event (Hall & Ford, 2001).

The literature concerning technology and change shows support for the use of computers in the classroom. In terms of Huffman et al. "Computers can be used to help teachers create a constructivist leaning environment in the classroom" (p. 156). Oberlander (2004) has pointed out that learning systems have undergone change towards constructivist concepts and practices. This pedagogical shift happened at the same time that technology became more prevalent in schools. Huffman et al, (2003) have stated that technological innovation may only be "successful if it incorporates a constructivist philosophy of education"(p. 156). Constructivists view learning as a "process where students interpret information in light of existing knowledge, and actively construct understanding, rather than receive information from an authoritative source such as a teacher" (p. 156). Before teachers can implement any changes, they need to be empowered with robust professional development programs that fully integrate computers in the classroom.

### **Professional Development Approaches**

According to Judson (2006), there is a gap between teachers' beliefs about instruction and what they actually do when integrating technology in the classroom. Most teachers, Judson (2006) observed, expressed that they were strong advocates of constructivism and that they worked in classrooms where the students were at the center of the learning event, but this was not necessarily the case. Similarly, a survey conducted by Abbott (2003) in a number of American schools showed that over 53% of the teachers who were believed to integrate technology do not use it in the classroom regularly. Factors such as time pressure (Lam, 2000; Smerdon, Cronen, Lanahan, Anderson, Iannotti & Angeles, 2000), and lack of appropriate materials and resources (Smerdon et al. 2000) hinder technology integration. This conflict between beliefs and practices led Judson (2006) to suggest that the goal of professional development must be the integration of technology using constructivist methodology, and not merely presenting the rationale of constructivism.

Professional development was not of a major importance initially, and little money was invested in designing appropriate professional development programs for teachers to help them integrate technology in instruction (Cuban, 2001; Fullan, 2001;

Fullan, 2003; Guskey, 2002). Many researchers, therefore, proposed that most of the funding assigned to technology be invested in providing better and more extensive teacher professional development programs to prepare them to smoothly integrate technology into their classrooms (Bitter & Pierson, 2002; Oppenheimer, 2002; Yildirim, 2000). However, Cuban et al. (2001) warn that change should not be at the surface level. Without fundamental reforms in school organization and structure, technical support, and funding, as Cuban et al. (2001) put it, "...only modest, peripheral modifications will occur in schooling, teaching and learning. Teachers will adapt innovations to the contours of the self-contained classroom. New technologies will, paradoxically, sustain old practices" (p. 830).

Professional development programs positively affect teachers' beliefs, and play a major role in promoting hands-on, student-centered classroom activities (Matzen & Edmunds, 2007). According to Baylor and Ritchie (2002), professional development is a prerequisite for any technology integration initiative. They criticize training programs that focus on literacy skill and pay little attention to promoting technology integration. Failure of many attempts to introduce technology in the classroom has always been associated with inappropriate teacher education training programs (Varsidas & McIsaac, 2001). Trainers, mentors and all decision makers involved in promoting technology in instruction have to focus on teaching with technology, rather than teaching about technology (Schaffer & Richardson, 2004). Teachers' skills in technology use represent one challenge. A more important factor, however, is to involve teachers in training programs where they have to reconsider their pedagogy, and beliefs about the merits of technology integration (Garthwait & Weller, 2005; Windschitl & Sahl, 2002). In a study conducted by Wozney, Venkatesh & Abrami (2006), teachers showed preference for in-service applied training which focuses on integrating technology in the classroom, rather than developing computer skills.

Levin and Wadmany (2008) studied many factors that hinder effective use of technology in the classroom: "lack of convenient access to computers, inadequate infrastructure, poor planning for the use of technology, limited or inadequate professional development, lack of time, lack of ongoing support, and poor leadership knowledge" (p. 233). Hoyer's study (2010) was concerned with the difference in the way both teachers and students view and use technology. "Teachers," Hoyer points

out, “need to understand the differences in technology usage between themselves and students, and even though educators persistently think of technology as new, it has been in schools for more than twenty years” (p. 1). Hence the need for creative professional development plans.

Hirsh (2006) explains, “Effective professional development is not about meeting the requirements of a list, it is about carefully considering and planning according to desired outcomes and standards that will contribute to that success” (p. 59). Jason (2006) states that “professional development goals should focus on the rationale of constructivism, not on forcing the use of technology” (p. 592). Levin and Wadman (2008) have suggested that “professional development experiences apply personal and social constructivist-based learning principles even if this requires a slower pace and more heterogeneous pattern of professional development” (p. 258). Focusing on each teacher’s individual professional development is key when discussing technology integration and high quality professional development opportunities. These opportunities might include interaction with education specialists, student experts, and learning resources, along with commitment to long-term sustained training which could be considered necessary to bring about change (Levin & Wadman, 2008). Ongoing professional development could include new formats, such as online portals, online learning communities, videos, podcasts, technology instructional coaches, and social networking (Pascopello, 2008). Technology fluency for teachers is defined by Plair (2008) as knowing when and how to use technology tools to enhance learning. So, providing teachers with new tools is pointless without high quality professional development that helps instructors understand how to use the technology effectively with their content.

Research findings show that teachers’ positive attitudes toward using computers in the classroom does not guarantee that they will be able to use them for instructional purposes. Training teachers to use technology is a key factor in helping them develop positive attitudes and encouraging them to integrate it into curriculum (Reynolds & Morgan, 2001; Yildirim, 2000). According to Di Benedetto (2005), even though trained teachers showed more positive attitudes toward technology use than teachers who did not receive any training, they did not show any signs of technology integration or adoption of student-centered learning styles. Di Benedetto (2005) explains the failure to integrate technology, regardless of the positive attitudes and technology skills, to the lack of follow up after the initial raining. Training should not

be limited to mastering basic computer skills but should focus on involving teachers in intensive training programs that empower teachers with proper methodologies, and curriculum-based activities to use the new knowledge inside the classroom (Baylor & Ritchie, 2002; Becker, 2001; Reynolds & Morgan, 2001; Roberts, 2003; Van Fossen, 2001).

Other than formal professional development that provides teachers with tools and methods that are of little immediate relevance to, and effect on teachers' motivation and confidence in using technology, teachers may join professional communities that share new ideas about novel uses and creative implementation of technology, discuss problems faced by individual members, and suggest down-to-earth solutions (Putnam & Borko, 2000; Zhao & Frank, 2003; Zhao & Cziko, 2001) suggested observing successful peers as a way to ensure teachers of the potentials and practical ways of technology integration. These model lessons serve as motivational and information function to lead teachers into the process of change and guide them into the different phases of technology adoption by providing answers, challenges, and support (Schunk, 2000). The availability of multiple models in the same working context provides a powerful learning opportunity to the observer to pick ideas, implement them, discuss their success with peers, make adaptations and changes, and finally adopt them (Schunk, 2000). Eventually, teachers will show more readiness adopting a specific technology that serves their most urgent needs (Ertmer, 2001). Cooperation with colleagues in the work place is another powerful tool that has to receive special care and attention (Smerdon et al. 2000). May (2000) found that the use of teachers as mentors to their colleagues helped them get more confident, and supported them through the integration of technology. Similarly, Davis (2002), in evaluating Georgia Technology Integration (InTech) found that teachers who received one-on-one guidance in technology integration were more confident in implementing technology, while teachers who did not get that support failed to do so.

This review of the literature gives us some insight into the factors that support or hinder technology integration. The roles of computers, teachers, students, methodologies, and professional development have been thoroughly investigated. The literature shows that while teachers have conflicting attitudes, all students have positive attitudes to the use of computers in the classroom. It also concludes that there are many factors that play a major role in motivating teachers to adopt positive

attitudes. These include teachers' and students' technology skills, students' interest in the subject, the adoption of an effective student-centered constructivist methodology, a progressive process of technology integration, peer support, adequate professional training, and on-going follow up. This research adds to the literature by investigating the relationship between the literature and teachers' and students' attitudes to technology integration to the Applied Technology high School in Al-Ain.

## **Chapter 3: Methodology**

The primary purpose of this study is to investigate the attitudes of teachers and students towards the use of computers as a tool for language learning in the Applied Technology High School in Al-Ain. The study aimed to understand the different factors that have encouraged or hindered technology integration. The study further attempted to shed more light on teachers' actual technology integration practices. To investigate these issues, three research questions have been presented:

4. What are the attitudes of teachers to the use of computers for teaching?
5. What are the attitudes of students to the use of computers for learning?
6. To what extent do teachers' classroom practices reflect their attitudes toward the use of computers for teaching?

### **Design of the Study**

To collect as much data as possible, I relied on a combination of quantitative and qualitative techniques to gather the data. First, two questionnaires were designed to collect quantitative information from teachers and from students about their attitudes towards technology integration in the language classroom (see Appendix 1 & Appendix 4). The teachers' survey (see Appendix 1) consisted of 25 statements while the students' survey (see Appendix 4) comprised 20 statements. The participants were asked to choose among four options "Strongly Agree," "Agree," "Disagree," and "Strongly Disagree." Moreover, open-ended questions were used in each survey to encourage teachers and students to provide additional feedback.

Second, two interviews were also designed to gather deeper information. The first interview was designed for teachers, and aimed to collect information about training programs, difficulties in technology implementation, materials used to support technology use, and challenges in using computers and monitoring students. The second interview targeted students (see Appendix: 5) and collected data about their learning preferences in the choice of learning materials, their cooperation in learning, and the impact of the age factor on teachers' and students' use of computers.

Finally, a class observation (see Appendix 3) was conducted in three different classes with the teachers' approval. The data collected was related to the amount of time spent on computer-based activities, the kind of activities used, classroom management, and the roles of teachers and students.

## The Participants

Teachers participating in this study were 14 teachers of English from different cultural backgrounds and of varying teaching experiences. Two teachers were Iraqi, three Egyptians, one Jordanian, one Tunisian, three Canadians, one American, one Australian, one British, and one Guatemalan. Their teaching experience ranged from 6 to over 21 years, and except for one, all of them have been using technology in teaching for more than 4 years. This group includes 8 holders of Master's Degrees and one holder of a PhD. All the Bachelor degree holders carry teaching certificates (CELTA). The teacher participants in this study were eight male, and six female teachers. Four of them signed their names to be interviewed, and three of them volunteered for observation.

**Table 1. Teachers' Demographic Data**

	Gender	Nationality	T. Experience	Education	Tech use	Interview	Observation
T 1	Male	Iraqi	6-15	MA	4+	Yes	Yes
T 2	Male	Egyptian	16-20	MA	4+	No	No
T 3	Male	Jordanian	21 +	PHD	4+	Yes	Yes
T 4	Female	Canadian	6-15	MA	4+	No	No
T 5	Male	Egyptian	21 +	BA	4+	Yes	Yes
T 6	Female	Iraqi	21 +	BA	4+	No	No
T 7	Female	Australian	6-15	MA	4+	No	No
T 8	Female	Tunisian	21 +	MA	4+	No	No
T 9	Male	Canadian	6-15	MA	4+	No	No
T 10	Male	Canadian	6-15	MA	4+	No	No
T 11	Male	British	16-20	BA	4+	No	No
T 12	Female	American	21+	BA	1 Year	Yes	No
T 13	Female	Guatemalan	16-20	BA	4+	No	No
T 14	Male	Egyptian	21 +	MA	4+	No	No
*T 15	Male	Egyptian	16-20	MA	Did not participate		

The students in this study were studying in a technology high school for boys. All were Emirati in grades, nine, ten, eleven, and twelve, with populations of 153, 168, 139, and 137, respectively. Though the total number of students was 597, not all students were able to receive the invitation email. According to the emails received from Survey Monkey, 28 students had their email full and were not reachable. Out of 569 students who received emails, only 429 responded to the survey. Also, 10 volunteers participated in audiotaped interviews.

**Table 2. Students’ Demographic Data**

Grade	Age	Periods of English (45 minutes each)	Number of Students	Participants	Interviewed
09	15-16	13	153	123	0
10	16-17	10	168	110	2
11	17-18	9	139	103	4
12	18-19	7	137	93	4
			597	429	10

### **Development of the Instruments**

#### **Surveys**

I designed two different questionnaires: one for teachers and the other for the students. In both questionnaires, I excluded the neutral option to ensure elicitation of clear attitudes.

In the teachers’ survey, I used three sections based on Bull (2003) (see Appendix 1). The first section of the questionnaire elicited demographical data about the respondents: gender, age, teaching experience, nationality, and educational degrees. I also included two items for respondent teachers to sign their names and contacts if they agreed to be interviewed and observed. The second section included 25 items that the respondents answered by ticking boxes in a scale of four responses: “Strongly Agree,” “Agree,” “Disagree,” or “Strongly Disagree.” Items 1-10 elicited teacher’s attitudes about using technology. Items 11-20 collected data about teachers’ attitudes about students’ use of technology. The last five items sought to explore the teachers’ attitudes toward the value of professional development and school support. The third section included four open-ended questions to identify the challenges that

teachers encountered in trying to use technology in instruction.

As for the students, and given their large numbers, I designed an online survey using Survey Monkey. This tool also helped me sort the data. The students' survey consisted of three sections. In the first section, I intended to elicit demographic information related to students' ages and classes, and whether participants would like to be interviewed or not. The second section included 20 items that were used to collect data about the students' attitudes to technology use (see Appendix 4). Items 1-10 tried to find out the students' attitudes to using technology for learning. Items 11-15 were used to collect data pertinent to the students' attitudes about the teachers' use of technology for instructional purposes. The final five items tried to identify the problems the students encounter with the technical school support system. In the third section, I used three open-ended questions to obtain information about the main challenges that students faced when they used computers.

For more reliable data collection, I needed to pilot both surveys, but I could not do it myself. I explained the situation to the lead teachers who spared no effort to communicate with the Dubai Applied Technology High School administration. In two days, I received the emails of 5 teachers and 45 students. The senior teachers mailed the hard copies to the teachers through the school mail and got the feedback three days later. The teachers piloted the survey and provided pertinent feedback that I took into consideration when writing the final draft. The students' survey went for a similar process, and an email invitation was sent to the assigned emails. I finally fine-tuned the survey by providing the Arabic translation to a jury of three senior teachers of Arabic for revision. Once done, I sent the invitation to all the students. Only 27 provided their feedback, but that helped us update our survey to meet the requirements of our research.

## **Interviews**

Two interviews were also designed to gather deeper information. The first interview (see Appendix 2) was designed for teachers, and included five different questions. The purpose of the interview was to collect more precise information about the challenges teachers faced. The questions elicited information about teachers' training programs, the difficulties they met when implementing technology, the materials they used to support technology use, and the challenges they encountered when using computers and monitoring students. The second interview (see Appendix

5) targeted students and collected data about their learning preferences in the choice of learning materials, their cooperation in learning, and the impact of age on teachers' and students' use of computers. Their feedback provided me with interesting information about the way students use computers in the classroom, and the challenges teachers face in using computers and managing their classrooms.

The interview with the students was conducted according to the students' individual schedules. I first sent an email to all students and asked them to set a time for the interview. I collected their feedback in a calendar and sent it back to them. I kept reminding them of the time, using emails. Before the interview, I assured the students that the feedback that they would provide would always be kept confidential, and that their names would not appear on any document. The interviews were not all in English, and the students had the choice to speak in English and/or Arabic. I made sure that each student had his interview separate so as not to be influenced by the others. I gave a copy of the interview to the students to read and think about the answers. I also read the questions to them and explained them in Arabic to avoid any confusion. I audiotaped their responses, and thanked them for their cooperation.

### **Observation**

After administering the survey, I found three volunteers who agreed to be observed in class. Classroom observations based on Marzano (2009) were conducted with three participants to monitor how technology was used in the classroom, the type of technologies used, and the amount of technology used. I also wanted to compare teachers' attitudes with what they actually do in class. I designed a classroom observation sheet that had many similarities with the observation form the senior teachers uses. Before starting the observation, I provided the three observees with the observation form so they would know exactly the focus of my observation (Appendix: 3). The form consisted of 15 items to be rated as "Unsatisfactory," "Needs Improvement," "Good," or "Excellent." A score of 1 to 4 was accorded, respectively. I did not need to explain the observation procedure because a similar observation sheet is used at the Applied Technology High Schools. For the final marks a mathematical equation was used whereby a score less than 50% was marked "Unsatisfactory," from 51% to 74.5% "Needs Improvement," From 75% to 87% "Good," and from 87.5% to 100% "Excellent."

For more reliable data, I involved the senior teacher as a second observer of

the teachers' performances. We attended three classes in three separate weeks. This is because each class lasts 90 minutes and it is almost impossible to attend more than one class in a week without affecting our work schedule. We observed three different grade levels: grade 10, grade 11, and grade 12. The numbers of the students in each class is 20, 16, and 14, respectively. In the first class we observed a project activity in which the students were asked to work in groups to design a hotel. Group members met and started designing hotel components. They accessed websites that offered free designing tools. They designed all the components and facilities, and the logo, wrote the vision and used spreadsheets for employees' salaries, vacations and all human resource services. The teacher moved from one group to another, giving them suggestions, and sometimes providing them with different tools to use. Finally, each group presented their finished product using PowerPoint.

In grade 11, we also observed a project activity in which the students went on a job hunt. In groups of four, they started planning what jobs they would go for. Given that the class is engineering-oriented, all students went for jobs related to their clusters. Once they identified the jobs, they started collecting materials from the Internet. They looked for the job descriptions, the skills required, and the educational subjects needed. They presented their suggestions and discussed the content and form of the work in class. Individually, each of the students started to write an application form to a virtual manager of a company, trying to get the job he explored. Again, students worked in groups to edit their final work.

In grade 12 the teacher used an e-book entitled *Focus on IELTS* on the following link: <http://sms.bookshelf.ebookplus.pearsoncmg.com/ebook/etextLogin.do>. Three students were not able to log on initially and had to get help from the teacher and another student. According to the students, this happens frequently. In Chapter 10 of *Focus on IELTS* "Hazard Warning," the students were asked to read a text and provide answers to the questions. The teacher and the students discussed the answers, and then the teacher shared with them the correct answers using a tool that made his answer visible to all. The second activity was a listening activity in which the students listened to an audio passage about Tsunami, and answered 10 questions. Both activities were used as training for IELTS. The teacher then asked the students to find information about Tsunami: causes, effects, and places most affected. In pairs students started collecting information. The teacher gave little support, as the students seemed to know exactly

what to do. The pairs showed their work to the teacher who gave them more advice. At the end students showed very creative presentations.

I negotiated the scores with the senior teacher who used an independent score sheet. I calculated the average of the two observations, and gave a copy to every teacher for his own self-improvement. I also met with the observed teachers for a period of 5 to 10 minutes each to discuss areas that “Need Improvement.” This discussion was also audiotaped.

Overall, the data collected through interviews, and class observation supported the results collected using the surveys. The interviews clarified the attitudes of teachers and students to the use of technology for instruction. The interviews and class observation provided more practical suggestions and recommendations and helped illustrate some of the research limitations.

### **Data Analysis**

A combination of quantitative and qualitative methods was used to collect data. Data collected from the surveys were analyzed, and frequencies and percentages were calculated. Descriptive analysis of the open-ended questions, the interviews, and the class observation forms were used to further clarify the quantitative data. Data analysis and findings are discussed in the next chapter with tables, figures, and charts.

## Chapter 4: Data Analysis and Findings

The data gathered from the surveys, the interviews, and classroom observations were analyzed and classified (Appendix 6). For more methodological analysis the data were grouped into two major sections: (a) teachers' surveys, interview, and classroom observation, and (b) students' surveys and interviews. Also teachers' survey data were divided into three subsections, in three different tables. Table 3 includes statement 1 to 10, and is related to exploring the attitudes of teachers towards using technology in teaching. The second section summarizes data pertinent to teachers' attitudes about students' use of technology for learning items (11-20). The third table gathers information about teachers' professional development (items 21-25).

### *Teachers' surveys, interviews, and class observation results*

I included ten items on the survey designed to investigate teachers' attitudes towards using technology in teaching (see Table 3).

**Table 3. Exploring Teachers' Attitudes about Using Technology in Teaching**

		Strongly Agree	Agree	Participants	Percentage	Disagree	Strongly Disagree	Participants	Percentage
1	I like to use computers	8	5	13	92.9	1	0	1	7.1
2	Computers help me become a better teacher.	8	4	12	85.7	2	0	2	14.3
3	Computer use is part and parcel of every lesson	4	5	9	64.3	4	1	5	35.7
4	I do not feel comfortable when I use a computer.	0	0	0	0.0	3	1	4	100
5	I think that computers are not easy to use.	1	1	2	14.3	7	5	12	85.7

6	Using computers makes me more creative.	6	6	12	85.7	2	0	2	14.3
7	Using computers does not make my lessons more interesting.	0	3	3	21.4	5	6	11	78.6
8	Emails secure a good connection between teacher and students.	2	7	9	64.3	5	0	5	35.7
9	Computers are changing the world too rapidly.	6	5	11	78.6	3	0	3	21.4
10	Using computers does not make me more creative.	0	2	2	14.3	7	5	12	85.7

Table 3 summarizes the teachers' attitudes to using technology in the classroom. One of the most important things to observe is that 92.9% (13) teachers shared a positive attitude towards using computers as instructional tools. One of the interviewed teachers noted, "At the beginning, I was using the computer just because it was part of my evaluation. It was not an option. Now I understand what it can do for me and my students, and love using it for that." Another teacher added, "I like to use any tool that helps me improve professionally. That is what computers are for me."

Another important finding that might further explain why some teachers like to use computers is that 85.7 % (12) of them believe that computers help them become better teachers, while only 14.3% (2) disagree. One teacher said. "Being a better teacher is not only related to having technology skills, but also to using sound methodologies that go with it." In response to an open-ended question, one of the teachers reflected about how he developed professionally and noted:

I was trained to use technology first in teaching effectively; I would say when I took my technology classes as part of my Masters' program. Before that I would say I was primarily using technology in a type one scenario where I was just taking pen and paper activity and putting them on the computer and projecting them on to the board I wasn't using a holistic or deep learning you could get with learning.

Though statements 1 and 2 showed that teachers liked computers and used them effectively, the frequency of technology use, in a place where computers are almost exclusively the source of information, is alarming. With only 64.3% of the teachers using computers as part of every lesson, 35.7% (5) teachers do not do so.

This, however, conflicts with findings collected from the interviews. In fact, 100% (4) of the interviewed teachers reported that they used computers in every single lesson.

One teacher commenting on the survey findings for item 3 said:

There is no way to have a class without computers. The first thing a teacher does is to check students' attendance online. The second step is to go over the homework. Our students do not have books or notebooks. The laptop is everything.

Another teacher added, "I am greatly surprised! According to the school protocol, we are supposed to use the computers in every class." A third teacher added:

Sometimes we get a message in the morning that the Internet will not be working. Most teachers feel at a loss and do not know what to do. Many teachers improvise speaking activities or projects based on designing applications. It is out of the question not to use computers daily. It is impossible to work without a computer

In response to statement 4 "I do not feel comfortable when I use a computer," 100% of the surveyed teachers disagreed. This positive attitude might be explained by the relatively long experience of almost all teachers in using technology. One teacher stated:

Well, we did not learn to use computers in one day. It was a long journey, and everyday we learned more and more. After four years of computer use in the classroom, I do not have that fear of technology that most new teachers experience.

Another teacher added, "We are comfortable, not only because of our expertise, but also because there is always a colleague to answer your queries and to share his/her expertise."

In addition, the same positive attitude is observed in response to statement 5, "I think that computers are not easy to use," where 85.7% (12) of the teachers disagreed, while only 14.3% (2) had an opposite view. Similarly, in response to statement 6 "Using computers makes me more creative," 85.7% (12) of the teachers surveyed showed positive attitudes. The same results are shown in response to statement 10, "Using computers does not make me more creative." This is clear evidence that the participants answered the survey with great care and attention, which makes the conclusions look more valid, and reliable. One of the teachers interviewed explained how the computer made him creative:

Before using computers, most of my teaching was lecturing. It was hard to meet the needs of every student. So it was one size fits all. Even when I

assigned projects, most of the time my students paid professionals to do them. Now my projects, howsoever challenging, motivate my students and get them to work harder every single time.

When teachers responded the statement 7, “Using computers does not make my lessons more interesting,” 78.6% (11) disagreed with the statement while only 21.4% (3) agreed. Using technology definitely provides teachers with a plethora of possibilities to explore: videos, audio, pictures, texts, and so on. The combination of these tools and the variation of the activities make them interesting. One of the interviewed teachers explains the challenges teachers endure to make their lessons interesting:

There are always classroom management obstacles whether you are using computers or the old pen and paper method. They are different problems though. With computers, especially in the-one-to-one like the one we have here, the students are using their laptops as a tool for learning, but at the same time the laptop can be their entertainment center. They have got all the music and video they like to enjoy, having the Internet is adding fuel to powder. The students can easily be distracted and lose interest in the lesson. The main challenge is to make the tasks challenging and rewarding at the same time. It is very difficult to do this to all students at all times.

Further, the teachers, who agreed to statement 7, believed that using computers does not necessarily make their lessons better. There are still more problems that the teachers have to face. These challenges are described by one of the interviewees:

The majority of the materials or textbooks that are used don’t incorporate technology into the lesson; it’s an extension activity or something the teacher has to add. All the assignments that are there should incorporate [technology] whether it’s a research or some kind of guidelines on how to incorporate technology into the lesson. Right now it’s just left up to teacher. If the teacher does not have the proper training it just doesn’t happen.

In response to statement 8, “Emails secure a good connection between teacher and students,” only nine teachers agreed, while five disagreed.

In response to statement 9, eleven of the surveyed teachers agreed, “Computers are changing the world too rapidly. One teacher explained:

Computers now are everywhere. Once they get into a place, there is no way back. Nobody doubts their validity and importance, and every year more powerful machines are built. In the past 15 years they invaded every industry, and business God knows what computers will be designed to do 20 years from now.

In the same line, another teacher added:

The fast change of the world does not present any challenges to the younger generations. It is all the time older people that have to try to catch up. As for teachers, the challenge is not in using new computer, but in smoothly adapting them to their teaching needs. Computer, however they are, should always be seen as tools for teachers to use.

Ten statements (from 11-20) are included to summarize teachers' attitudes to students' use of computers for learning (see Table 4).

**Table 4. Teachers' Attitudes to Students' Use of Technology for Learning**

		Strongly Agree	Agree	Participants	Percentage	Disagree	Strongly Disagree	Participants	Percentage
11	Students enjoy using computers for class learning	4	10	14	100	0	0	0	0.0
12	Students can be on task whenever and wherever they like.	2	10	12	85.7	2	0	2	14.3
13	The Internet makes students more motivated.	2	9	11	78.6	3	0	3	21.4
14	Students work harder on their assignments when they use computers.	2	6	8	57.1	6	0	6	42.9
15	Students help one another more while doing computer work.	2	5	7	50.0	7	0	7	50.0
16	Computers stimulate creativity in students.	3	9	12	85.7	2	0	2	14.3
17	Computers enhance students' learning.	4	10	14	100	0	0	0	0.0
18	Computers help students get organized.	4	9	13	92.9	1	0	1	7.1
19	Students using computers in the classroom are hard to manage.	2	6	8	57.1	3	3	6	42.9
20	Students may check their emails,	5	3	8	57.1	5	1	6	42.9

listen to music or play games when they are supposed to be on task.									
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As seen in statement 11, it is obvious that all teachers believe that “[s]tudents enjoy using computers for class learning.” In the open-ended questions one teacher said, “Computers nowadays play a major role in motivating students and getting them to grow as independent learners.” A second teacher added, “I believe that computers provide an interesting atmosphere to students when they use them for learning purposes. The integration of technological tools has also a positive impact on the traditional beliefs and learning styles.” Another teacher added, “Computers are tools, but their potentials are enormous if used wisely. Students like to use them. However, the focus should be balanced on acquiring pedagogy and technology.” It is also clear that teachers unanimously agreed that “Computers enhance students’ learning” (statement 17). This belief in the value of computers as a learning tool has affected how, where, and how often students can use this technology. In fact, in response to statement 12, “Students can be on task whenever and wherever they like,” 85.7% (12) of the teachers acknowledge that the school provides an environment where students can use computers and access the Internet freely. One of the teachers interviewed described this context saying, “It is only in universities that students can have similar services.”

In response to statement 13, “The Internet makes students more motivated,” 78.6% (11) agree while only 21.4% (3) disagree. One teacher commented in response to open-ended question number 4 (Appendix 1), “The Internet nowadays plays a major role in motivating students and getting them to grow as independent learners.” Another teacher stated, “In general it [Internet] has more positive impact on students’ learning as it enables them to work according to their interest and pacing.” A third teacher concluded, “There is less instruction so students are supposed to be independent in researching materials, and completing online tasks.” One of the teachers who questioned the role of the Internet as a tool that could motivate students raised the issue of the inappropriateness of the materials available. According to this teacher, “Materials they find are too challenging sometimes so they tend to use anything copied and pasted rather than understood.”

In response to statement 15, “Students help one another more while doing computer work,” teachers’ points of view are not clear with 50% for each side of the issue. For a context that claims to implement technology, these figures ring a bell. If teachers do not believe that their students cooperate while doing computer tasks, they should have valid reasons for so thinking. One of the interviewed teachers stated:

I think that student should be free to access information that’s required for what they are doing on task but things like Facebook and social chatting these kinds of thing they really take away from the lesson and distract the students, I find. Group chatting something like typewith.me or Edmodo where they are all working together collaboratively from different parts of the room is great, but if they are constantly getting text messages from their friends or they are going online to read about something they are interested in I find it very distracting.

The findings become more alarming when only eight out of fourteen teachers agreed with statement 14, “Students work harder on their assignments when they use computers,” statement 19, “Students using computers in the classroom are hard to manage,” and statement 20, “Students may check their emails, listen to music or play games when they are supposed to be on task.” In fact, 50% of the teachers stated that distraction was the second major problem, after Internet connectivity that negatively affected computer integration. In response to open-ended question 1, “What problems do you face that interfere with your use of computers in the classroom?” (Appendix 6), one teacher stated, “The biggest problem I face is students using their laptops for things other than what they should be doing. Laptops are wonderful tools but they can also distract students from learning.” A second teacher said, “Students are distracted. [They] might not be working on the task itself, [but] rather doing other things on the computer.” A third teacher concluded, “Some students get distracted when using computers for a long time.” Finally, many teachers reported finding students watching videos, accessing websites that interest them, or playing games while they were supposed to be on task. One of the teachers said, “I found 6 students playing a game. What they did is that they created a local network, shared the password and joined it at the same time. It took me a lot of time to know what was happening.” A similar experience is reported by one of the interviewed teachers:

I do have difficulties. It is when the students’ screen is not facing the teacher; the student has many ways of not being kept in focus or on track. There are a lot of distractions with the computer. Initially, I tried to set up a network in the school, when they weren’t allowed to log into the Internet. James [technology

specialist] had shown me how to do that. But then when they need to find information, they had to go outside of that, and I had to constantly monitor them. There is definitely a need for software where the teacher can monitor what the students are looking at all times. My only way, but it's a primitive method, was having them facing the opposite direction in a semicircle where I can see their screens at all times.

In response to question 16, "Computers stimulate creativity in students," 12 out of 14 teachers agreed with this statement, while only two disagreed. All the teachers interviewed believed that project work stimulated students' creative skills.

Undoubtedly, and in response the statement 18, "Computers help students get organized," the majority of the surveyed teachers (92.9%) believed that computers help students get more organized. In the qualitative data all the teachers interviewed reported that computers played a major role in getting students organized. One of the teachers said,

At the beginning, students were totally confused. They frequently lose work, miss deadlines, and fail to respond to emails. After a few weeks, they get support from their teachers and start managing their computers in a very professional way. Though they have 7 different subjects, they arrange their files so that they never get confused.

In the same line another teacher added,

All students use stickers [which is an application that keeps notes on the screen] to note down tasks that they have to complete. They also use a reminder tool. Mac is a powerful laptop, and most students use it well.

There were five items on this table to investigate teachers' attitudes to professional development (see Table 5). Overall, it is clear that most surveyed teachers have a positive attitude towards professional development to meet the growing challenges they face while implementing technology in instruction. For example, the quantitative data gathered showed that 12 teachers agreed with statement 21, "Appropriate professional development helps me integrate technology in my instruction." Their only concern, however, was that many of them did not have the chance to get it. In response to the open-ended question, "Do you think you have appropriate professional development opportunities to help you implement technology integration? How so?" twelve teachers expressed their disappointment about the appropriateness and/or availability of professional development opportunities:

- Rare PD sessions in an inappropriate time which makes teachers disinterested to attend.

- The available PD opportunities do not match my professional needs. There are very few PDs. Those that are offered are not typically specific for the Mac operating system.
- I didn't have any professional development to help me implement technology integration.
- We had no training.
- Most are surface level PD sessions with little to no follow up.
- We have received no training in how to effectively use our computers.
- PD session always seem rushed and offer little or no time for practice.
- Employers are not always ready to fund such PD programs. They look for free and promotional ones instead.

In response to statements 22 and 23, an equal number of teachers (12) agreed that they liked to use the Internet to know more about using computers, and asked colleagues to learn more computer programs. One teacher said, "We have always been sharing links and websites that offer tips for integrating computer in teaching. We also share videos and tutorials on useful applications." In addition, weekly academic meetings are a great source of creative ideas. One teacher commented, "Academic meetings provide us with the opportunity to raise questions, share expertise, and develop professionally. This, for me, is the best way to develop professionally."

Another source of professional development is found in response to statement 24, "I like to learn about computers by watching other teachers in action." 78.6% (11) of the teachers agreed that classroom observations provide them with good models to follow. Also, 75% (3) of the interviewed teachers stated that they learned most of their computer skills and classroom practices from observing successful teachers. One of them said, "Creative ideas are not hard to find. The Internet forums provide you with more than you need, but what works well with your students is not always easy to find. Attending classes with my colleagues saves me the time and effort."

The biggest challenge the teachers face is getting technical support on time. In response to statement 25, "I get immediate technical support from the school technician," 64.3% (9) disagreed, while only 35.7% (5) agreed. In fact, after Internet connection and students' distraction, technical glitches and lack of technical support come as the third cause of teachers' concern and dissatisfaction. In an open-ended

question one teacher noted, “Technical support is not always available whenever and wherever needed.” Another teacher added, “If they want us to rely on technology, they have to provide us with technology that is reliable. I am a language teacher, not a technician.”

**Table 5. Teachers’ Attitudes towards Professional Development and Support System**

		Strongly Agree	Agree	Participants	Percentage	Disagree	Strongly Disagree	Participants	Percentage
21	Appropriate professional development helps me integrate technology in my instruction.	4	8	12	85.7	2	0	2	14.3
22	I like to use the Internet to learn about computer programs.	6	6	12	85.7	2	0	2	14.3
23	I like to learn more about computers by asking my colleagues.	5	7	12	85.7	2	0	2	14.3
24	I like to learn about computers by watching other teachers in action.	2	9	11	78.6	3	0	3	21.4
25	I get immediate technical support from the school technician.	1	4	5	35.7	6	3	9	64.3

The teachers’ observation form included 14 statements and one time indicator to collect data pertinent to teachers’ use of computer as a teaching tool (See Table 6). Overall, Table 6 shows that all the teachers implemented technology in their classrooms with varying levels of success. Two of the observed teachers showed “Excellent” technology use with scores of 90% and 95%. The third teacher, however, was a “Good” user with a score of 82%. It is clear that in most of the 15 indicators, the teachers were ranked as “Excellent.” In ten items (1, 2, 3, 4, 5, 10, 12, 13, 14, 15) all teachers were ranked between “Excellent” and “Good.”

**Table 6: Teacher Observation Form**

Criteria	Teacher 1			Teacher 2			Teacher 3		
	Observer 1	Observer 2	Average	Observer 1	Observer 2	Average	Observer 1	Observer 2	Average
1. The teacher uses technology effectively and creatively to introduce the lesson.	4	4	4	4	4	4	4	4	4
2. The teacher assigns tasks that are relevant and meaningful to the students.	4	4	4	4	4	4	3	3	3
3. The teacher creates a learning context that supports a regular use technology.	4	4	4	4	4	4	4	4	4
4. The teacher creates a learning context that supports students' choice of technology tools that best serve the task.	4	4	4	4	4	4	4	4	4
5. The teacher creates a context that includes access to a variety of technology tools.	4	4	4	4	4	4	4	4	4
6. The teacher facilitates students' selection of technology tools.	4	4	4	4	4	4	2	2	2
7. The teacher imposes some restrictions on students to keep them on task and to ensure healthy and safe use of technologies.	2	3	2.5	3	3	3	2	2	2
8. The teacher encourages students to work individually.	2	3	2.5	4	4	4	4	4	4
9. Teacher encourages students to use technology tools	4	4	4	4	4	4	2	2	2

collaboratively.									
10. The students show familiarity with the technologies used in the classroom.	3	3	3	4	4	4	4	4	4
11. Teacher emphasizes task based language instruction and/or project-based activities.	4	4	4	4	4	4	2	2	2
12. Teacher uses evaluation tools that assess students' achievement.	3	3	3	3	3	3	3	3	3
13. Teacher tolerates and encourages individual differences.	3	3	3	4	4	4	4	4	4
14. Teacher differentiates instruction to serve the needs of individual students.	4	4	4	4	4	4	4	4	4
15. Length of time of technology use: 00:00	4	4	4	3	3	3	3	3	3
Total Score (%)			90%			95%			82%

Classroom technology use, however, did not show the same pattern for all teachers. Teacher 1, for example, was ranked as “Excellent” in 10 indicators; Teacher 2 in 11 indicators; and Teacher 3 in 8 indicators only. The table also shows a gradual move from collaborative group activities to more focused individual activities as students move from grade 10 to grade 12. An overall “Good” use of technology does not hide a few challenges and problems. It is clear that Teachers 1 and 3 had problems imposing “restrictions on students to keep them on task and to ensure healthy and safe use of technologies” (Item 7). Though we did not observe this in our visit, in most cases failure to impose restrictions encourages students to access irrelevant materials.

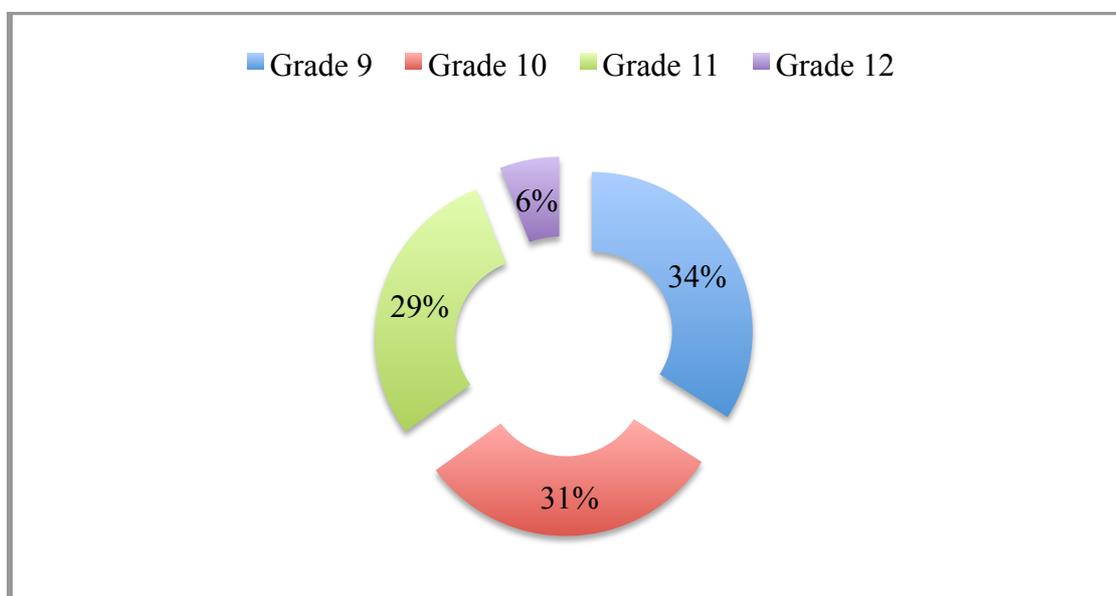
Results for item 8 results, for instance, prove that Teacher 1 does not “encourage students to work individually.” This focus on group work in grades 10 and 11 is also seen in item 9 where “Teacher encourages students to use technology tools collaboratively.” When I discussed this with the teacher, he said:

A competitive environment does not support learning. It is easier for students to learn from their peers than asking the teachers. I do not need to be the center of the learning activity. They can develop their own learning styles.

To sum up, it is clear that most teachers held positive attitudes to technology integration and acknowledged the roles computers played in motivating both teachers and students, and in creating a healthy learning environment. Their beliefs were also confirmed by the results of the classroom observations that showed skills in using computers for learning purposes. They, however, showed concern about the way students used technology. They were also disappointed with the kind of professional development they received, and the poor quality of technical support provided.

### *Students' surveys and interviews*

Figure 1 shows the student population that responded to the survey. It is clear that the younger the students were, the more they responded. In fact, in grade 9 student participation reached 34%, while it was 31% in grade 10, with only 29% and 6% for grades 11 and 12, respectively. Out of 429 participants in the survey, only 10 students volunteered to be interviewed.



**Figure 1: Students' survey population**

Figure 2 summarizes students' attitudes to statements 1 to 5. Overall, students showed a positive attitude to all the five statements. This attitude, however, was more obvious in statements 1 (89.2%), 2 (93.4%), 4 (86.1%), and 5 (91.1%). For example, in response to statements 1, "I enjoy using computers in the classroom," the majority

of the students (89.2%) agreed. One student said, “Of course we enjoy using computers in the classroom. Computers are everywhere and we love to use them. I feel sad for those schools that still use books, and copybooks.” In response to statement 4, “I like to use computers to communicate with my friends,” one student stated:

I think that the main purpose of using computers is to communicate. I am always in touch with my friends. I send and receive messages wherever I am. I always feel close to my friends. We sometimes use Skype to coordinate activities and to work on assignments.

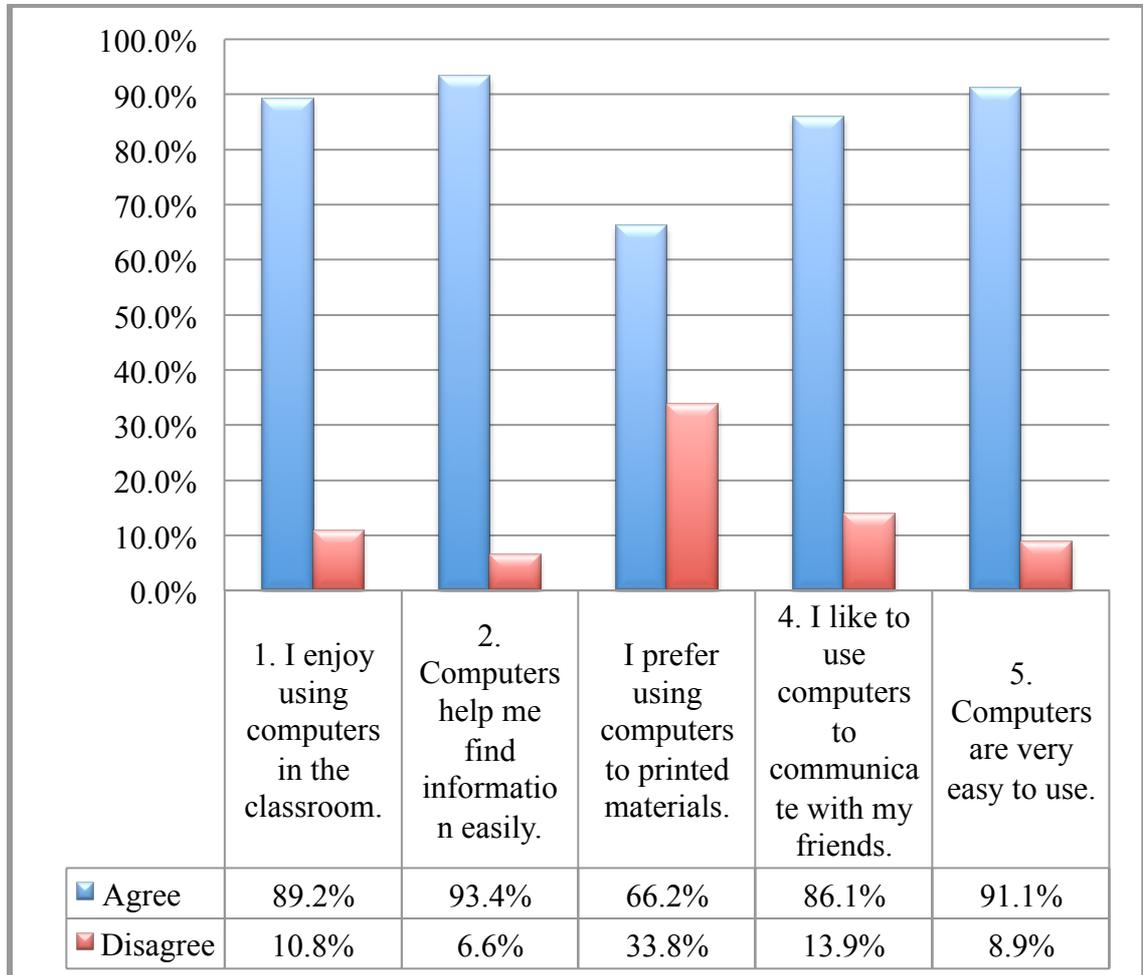
Further, statements 5, “Computers are very easy to use,” and 2, “Computers help me find information easily,” showed the highest rate of positive responses with 91.1% and 93.4%, respectively. The two statements are related to students’ self-confidence with technology. Part of this is related to students’ familiarity with technology and their exposure to computer activities in class. One of the students commented:

When we got our Mac computers, there were so many things that we did not know how to use them. They looked just different. We could not even download anything. Later we started using them daily in class, and that helped us learn how to use them very fast. Now we can do everything with our computers, and there is always someone around to offer help.

Paradoxically, and in response to statement 3, “I prefer using computers to printed materials,” 33.8% of the surveyed disagreed. In an environment where computers are used in almost every class, and for all subjects, that response looks strange. In the students’ responses to interview question 4 in Appendix 5, “Do you like to have computer or paper-and-pen tests? Why or why not?” seven out of ten interviewed students expressed their preference for paper-and-pen activities. This response is easily explained by the students’ need to get proper training for IELTS. One of the students said, “Some teachers tried to copy IELTS exams on the computers. It was useless. We need to see the whole text. We need to put signs everywhere. These are the basics of IELTS exam taking skill.” Another student added:

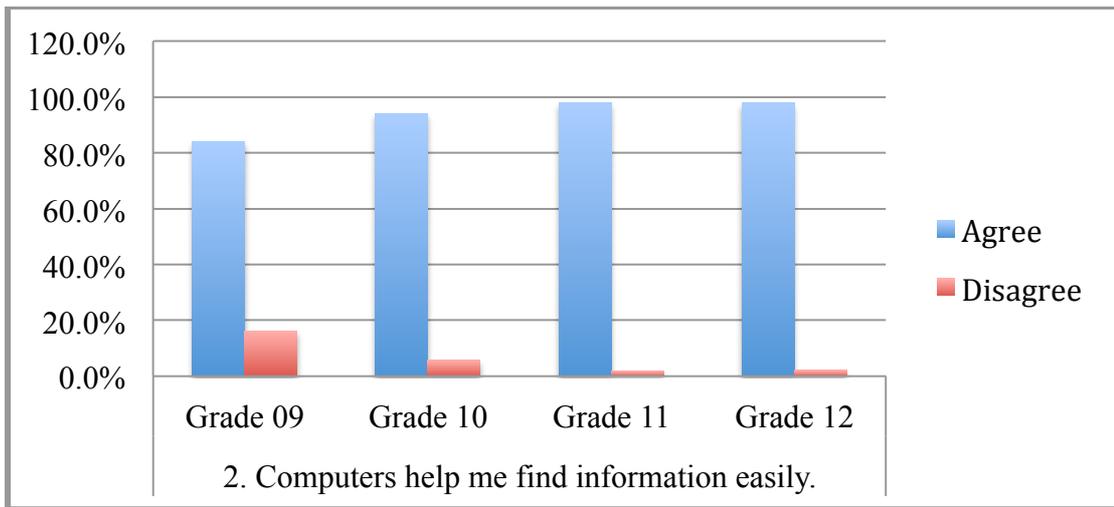
It is normal to use paper-and-pen to prepare for a paper-and pen test. Even if they adopt a computer format, I will always prefer a paper-and-pen version. All our tests are in paper and pen, so why do I have to think about a computer format?

A third student commented, “I certainly prefer paper-and-pen, but if they want students to choose computer tests, they have to start that from grade 9. Also they have to put all test on computers.”

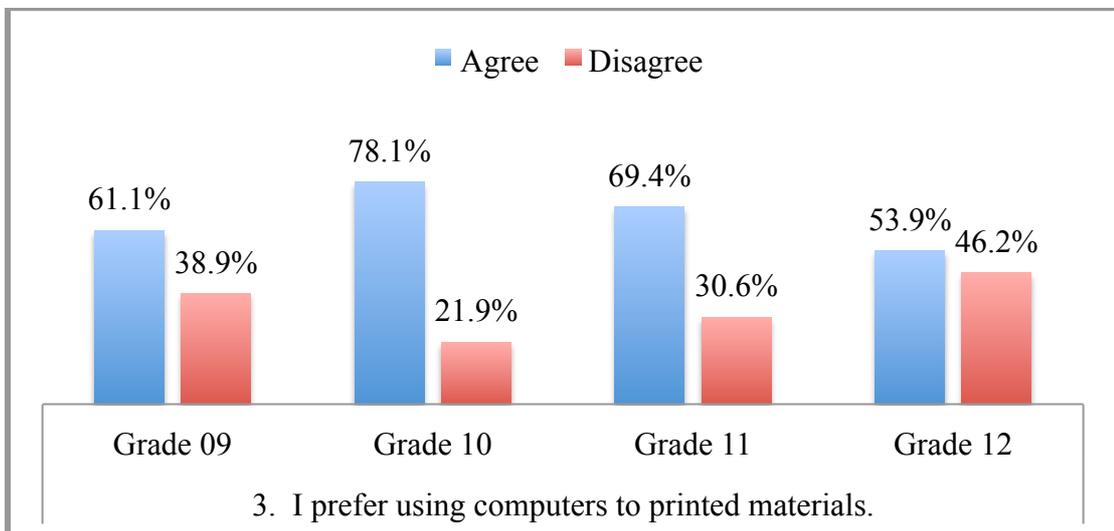


**Figure 2: Students' interview responses to items 1-5**

Although all grades show similar attitudes, minor differences can be observed. For example, in response to statement 2, it is clear that grade 12 students, after 4 years of computer experience, are the most comfortable with using computers, with only 2.2% who do not find computers easy to use. Grade 9 students, on the other hand, face the highest challenges with 16.1% of them having problems using computers (see Figure 3). Further, in the responses to statement 3, it is clear that grade 12 and grade 9 students showed the highest preference for using paper and pen materials (see Figure 4).



**Figure 3: Students' responses to statement 2**



**Figure 4: Students' responses to statement 3**

Figure 5 describes the students' responses to statements 6 to 10. Though statement 9, "Using computers is a waste of time," has a negative connotation, the students' responses to all the statements indicated a positive attitude to using computers in the classroom. In response to statement 6, "Using computers makes me more creative," 86.5% of the surveyed students agreed to the statement. The interviewed students stated two creative activities that they enjoyed most. First, 8 out of 10 reported that project work makes them use all their skills to produce a final product. What makes that more creative, they believe, is that they had to challenge other groups to come up with more creative ideas. One student said:

When we do projects, we do not primarily look to what other groups are doing, but when the teacher moves around and tells us what other groups are doing we feel the pressure of doing better and better. At the end, we are most of the time happy with what we do even though we are not always the best. Second, 7 out of 10 of the interviewed students believed that designing is the most creative part of all activities. One student said:

We did not start designing all at once. At the beginning all we could do was to use PowerPoint to present our work. The teacher, then, forced us to use Keynote. This application gave us better options. We moved to iMovie and started designing our own movies. What I can do now was like a dream 3 years ago.

In response to statement 7, “Using computers makes me more organized,” 89% of the surveyed students agreed. All of the interviewed students acknowledged the value of the computer as an organizational tool. One interviewed student explained:

Computers make you organized whether you like it or not. We use folders for different subjects, and subfolders [within the folders] for different chapters. Different teachers help us organize our work. We use Stickers [an application in Mac] to note down homework activities. We also use the Calendar [another application in Mac] to remind us of quizzes, and dates of homework submission.

One of the most powerful uses of computers is for communication. In response to statement 8, “Using computers helps me communicate with my teachers and my classmates,” 92.6% of the students agreed. All of the interviewed students reported that they communicate with their teachers and other classmates through emails on Skype almost daily. One student said:

The first time my father saw me using Skype he did not like it because he felt I was wasting my time with my classmates. When he understood that we were all doing a project together, by sharing our screens, he changed his attitude.

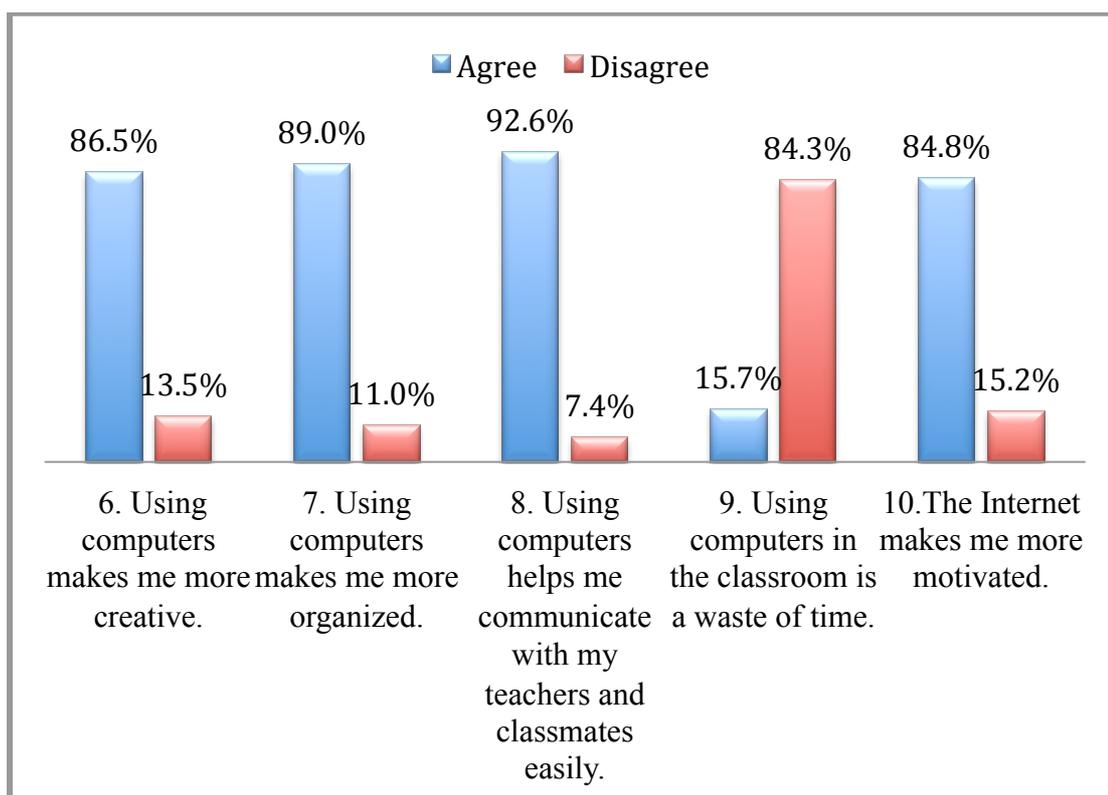
He has never intervened with my work on the computer ever since.

Communication is also secured by emails students sent to their teacher and their classmates. “On a daily basis,” one student stated, “I check my emails to see what I have to prepare for the second day. If the task is not clear I send an email to my teacher, or to one of my classmates for clarification.”

In response to statement 9, “Using computers in the classroom is a waste of time,” 83.4% of the surveyed students disagreed. This finding is reinforced by the

qualitative results where all 10 students believed in the importance of using computers in the classroom. One grade 12 student said:

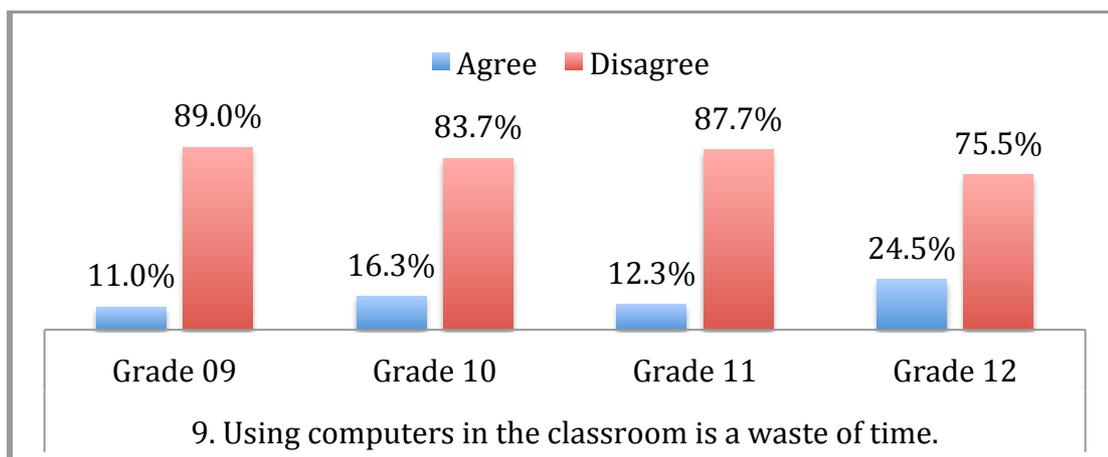
Thanks to the computer we actually save time, not waste it. If, for example, I have to edit an essay or a project, I do not have to start from scratch. I only change what I have to change. I also save time because I use the search tool to locate any information in my computer at the click of a mouse. Only when we get IELTS online materials we feel that we can save more time by using paper-and pen material.



**Figure 5: Students' interview responses to Items 6-10**

Age and grade level, however, might have some impact on the students' responses. In fact, while 89% of grade 9 students disagreed with statement 9 (see Figure 6), only 75.5% of grade 12 students did so. It is clear that paper-and-pen IELTS practice activities motivate students more than their online format. One student said:

Some of the computer activities that teachers give are paper-and-pen activities converted to computer format. What is the difference between reading a text in PDF or in hard copy? It is always better to read from a paper if you have to answer questions afterwards. Even writing activities are more useful on paper because students will not copy and paste materials from different sources. We all know that Wikipedia is the cheaters' haven.



**Figure 6: Students' responses to statement 9**

Overall, as shown in Figure 7, most students showed positive attitudes toward the statements. In fact, in response to statement 11, “The teacher enjoys using computers,” 85.2% of the surveyed students agreed. One student explained:

Well, our teacher focuses almost exclusively on using the computer in the classroom. There are some activities that can be done without computers, but he only accepts computer format. He has never accepted any homework submitted by hand even if we face computer or Internet problems. Sometimes it is too much.

The same positive attitude was clear in statement 13, “Students help one another more when doing computer activities,” where 85% of the surveyed students agreed. One interviewed student commented:

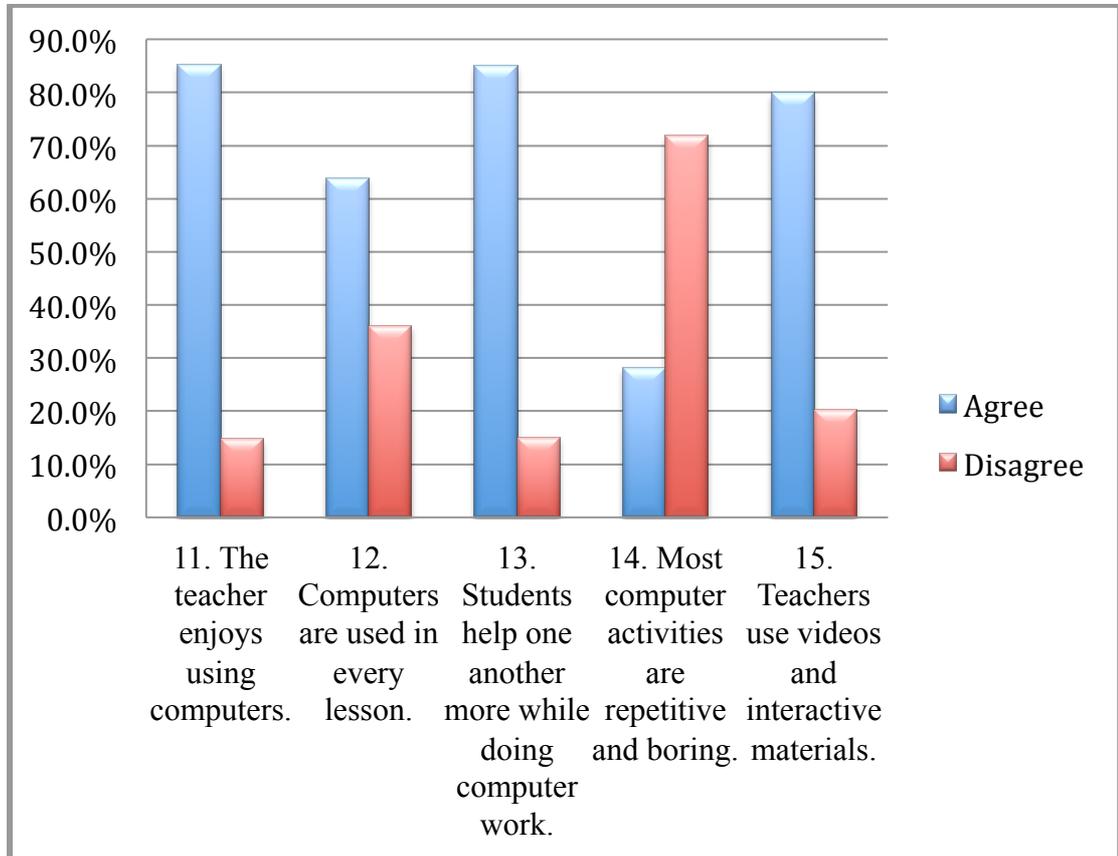
When doing computer work, there is always a way to help others. We can suggest a better application, share a good video or presentation, and even solve technical problems. Paper-and-pen activities are almost exclusively individual and are, generally speaking, or exam preparations.

Further, and in response to statement 15, “Teachers use videos and interactive materials,” 79.8% of the surveyed students agreed. A similar positive attitude is also shown in response to statement 14, “Most computer activities are repetitive and boring,” to which 79.8% of the students disagreed. 80% of the interviewed students expressed the same attitude. One of the interviewed students said:

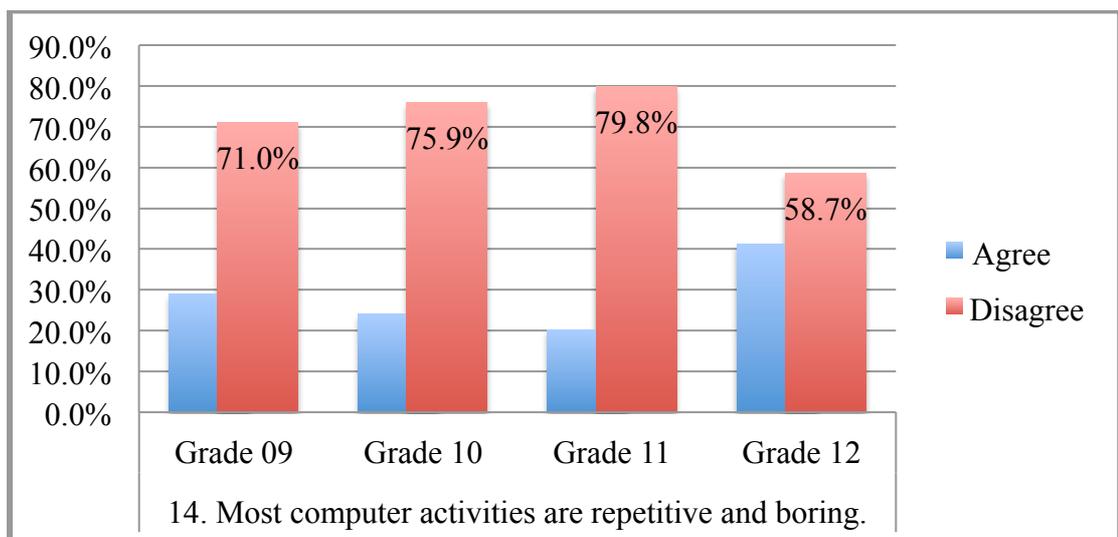
Our teacher is very creative. We love her class because most of the time she does best to present creative materials. Sometimes it is hard for her to do that because she has to train us for exams. When an activity is boring she feels it and she adds some more activities to change the class mood.

Though age did not affect the results, it seems that the majority of the students who agreed with statement 9 are in grade 12. In fact, 43.1% agreed with the statement

while only 20.2% agreed in grade 11 (see Figure 8). Finally, in response to statement 12, “Computers are used in every lesson,” only 63.9% of the students responded positively.



**Figure 7: Students' interview responses to items 11-15**



**Figure 8: Students' responses to statement 14**

Another important result is observed in the students' responses to survey statement 16, "Teachers help us understand how to use computers as a learning tool," where 83.5% of the students responded positively. One grade 12 student reflecting on the lack of teacher guidance in his early experience with computer use, said:

I remember downloading a complete assignment and submitting it to the teacher after changing the title. I strongly defended myself that it was my own work. Unfortunately, some parts of the document were in French. When the teacher read it aloud I did not understand what he was saying. It was very embarrassing. That happened to many others later on.

The findings from survey questions 17 to 20 showed the challenges the students face in using technology in their school. First, in response to statement 17, "We cannot download useful materials due to administrative restrictions," 81.5% of the respondents agreed. Though the administrative restrictions apply to all students, different grade levels do not seem to face the same challenges. As seen in Figure 10, grade 9 students seem to face the highest challenges while grade 12 seem to be the least affected (see Figure 10). One grade 12 student explained:

We just download what we have to download and share it on Airdrop [a Mac file sharing application]. Restrictions mean nothing to us. We just bypass the restrictions and the local server. Even when the Internet is down we use our smartphones as a hotspot to connect to the net. Easy, isn't it?

Second, in response to statement 19, "The school proxy prevents us from accessing useful websites," 87% agreed. However, what the students consider useful websites are not necessarily considered so by the school administration. The students' qualitative data showed that all students considered Youtube as the most useful website, and Facebook comes second with 90% of the student voices. The school administration banned access to these websites after reports from teachers that students get distracted in the classroom. 100% of the interviewed students reported watching other students play videos and computer games in the classroom. One student said:

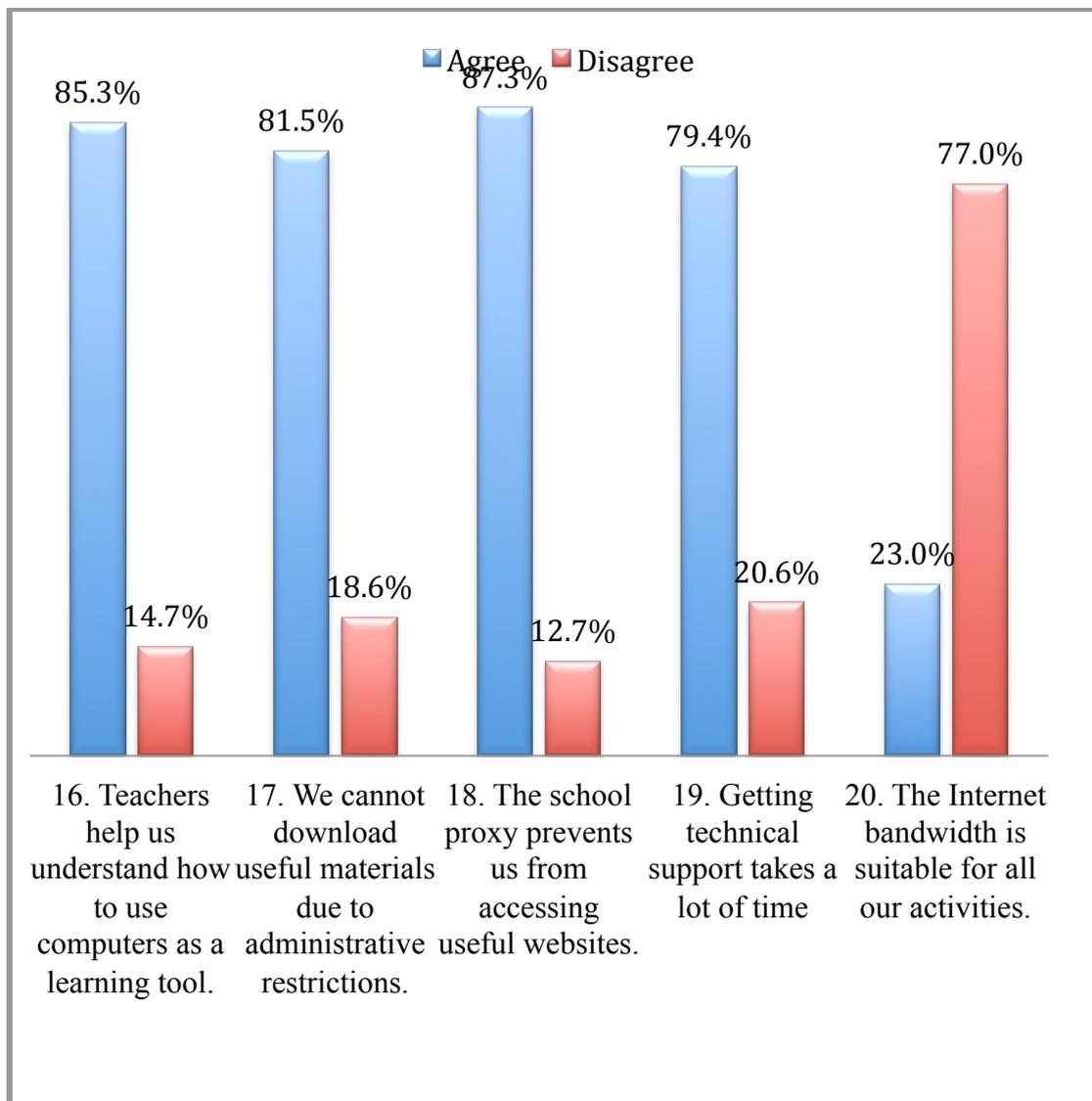
It really hurt teachers to trust students and allow them to work cooperatively on tasks to find them in the end joining a network and playing a game, or watching a video. Certainly the teacher may not know that, and in most cases students either copy the assignment from the Internet, or try to find excuses for not submitting work in time. In almost every class, there are students do not use computers properly in the classroom.

Further, in response to statement 20, "The internet bandwidth is suitable for all our activities," 77% of the respondents showed their dissatisfaction. When students

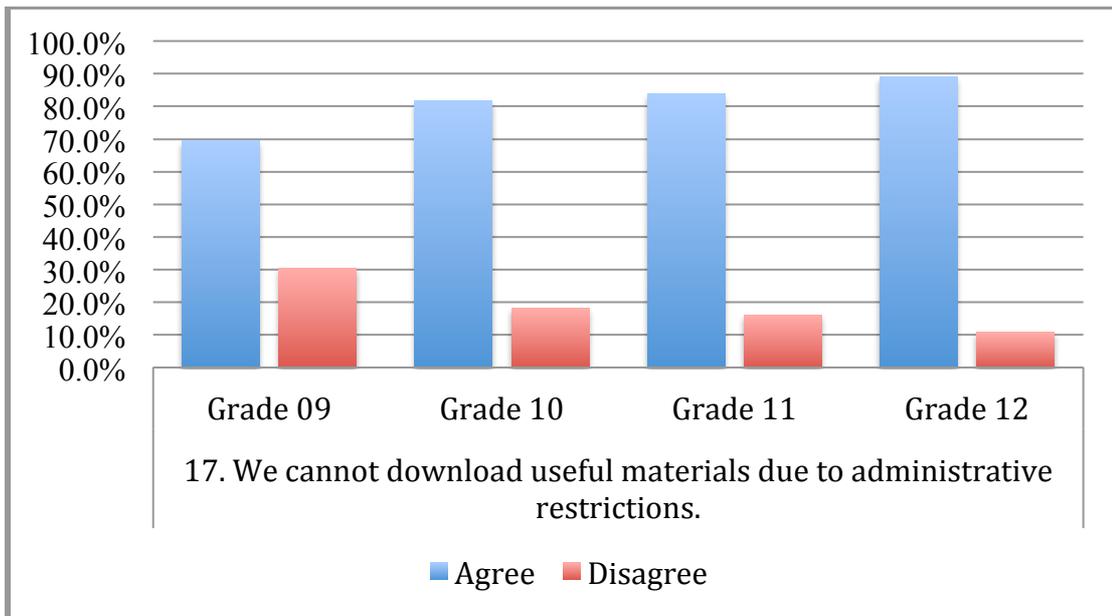
bypass the proxy and download materials, this has a direct impact on the Internet bandwidth. Also, having over 750 computers simultaneously connected to the Internet can lead to similar results.

Finally, getting technical support (statement 19) is also one of the most serious problems students faced. In fact, 79.4% of the students complained about the quality of technical support provided. One interviewed student stated:

When I take your laptop to the technician it can stay form 1 to 10 days, sometimes more. What can 1 technician do? Almost nothing. He has to fix teachers' computers almost immediately, but students have to take their turns. Whenever I go to his office, I find a large number of computers there. Last year the technician was better. He repaired computers faster.



**Figure 9: Students' Interview responses to items 16-20**



**Figure 10: Students' responses to statement 17**

To conclude, most students showed positive attitudes towards the use of computers as a learning tool. Even in a technology-rich environment, though, the findings show that paper-and-pen activities are still valid for many reasons. Most students, however, approved of the ways teachers integrated technology and blamed most problems on the administrative restrictions and the lack of technical support.

The next chapter summarizes the major findings of this study, provides some practical implications for teachers and administrators, lists some limitations of the study and suggestions for further research, and ends with my final thoughts on this study.

## **Chapter 5: Conclusions and Implications**

This chapter first provides a brief summary of the study's findings. Then, based on the discussion of the results, some practical implications for teachers and administrators are suggested. Next, some limitations of this study are identified and directions for further research are recommended. Finally, the chapter ends with my concluding thoughts.

### **Summary of Findings**

The main purpose of this study was to understand the attitudes of teachers towards technology use in the classroom. It is interesting to conclude this study with some similarities between what I have found and what has been reported in the literature. Similar to findings of many researchers (Albirini, 2005; Almekhlafi & Almeqdadi, 2008; Ismail et al. 2010)), the survey results showed that all teachers felt comfortable when they used computers.

Contrary to literature findings that teachers' positive attitudes did not match their classroom practices (Ertmer et al. 2001), and that the majority of the teachers had little or no competencies in handling most of the basic computer functions (Albion & Ertmer, 2002; Ertmer et al. 2001; Ismail et al. 2010; Zhao & Cziko, 2001), this research showed that the majority of the participating teachers liked to use computers as teaching tools, believed that computers helped them become better teachers, thought that computers were easy to use, and considered computers as creative teaching tools. Classroom observation results also showed that teachers' positive attitudes were aligned with their classroom practices.

The second purpose of this study was to investigate students' attitudes toward the use of technology. These attitudes were investigated in two different ways: the way students view technology use, and the way teachers view students' use of technology. The survey results showed that teachers believed that students enjoy using computers for class learning, and that computers enhance students' learning. In support of this belief, 92.9% of the surveyed teachers considered that computers help students get organized. In addition 85.7% of the surveyed teachers considered computers as creative tools for students. However, over 50% of the teachers showed concern for the way students use technology in the classroom. Most teachers believed

that students get distracted while on task. The same remark was also supported by the majority of students interviewed.

The results also showed that there seems to be a gap between students' collaborative use of computers, and teachers' concern about what students do while on task. In fact, 57.1 % of the teachers believed that students work harder on their assignments when they used computers, and only 50% of the teachers believed that students help one another while doing computer work. Also, 8 out of 14 teachers believed that "[u]sing computers in the classroom has negative effects on students' learning." Students' quantitative data, on the other hand, showed that 85% of the students believed that they used computers for effective collaborative purposes. This gap was also reported by Marzano (2009, p. 10), "Students are using personal technology tools more readily to study subject matter, collaborate with classmates, and complete assignments than they were several years ago, but they are generally asked to "power down" at school."

It is clear that project work can support students' use of technology. Qualitative findings in this research also showed that students are motivated when the projects are challenging. The results also showed that students' motivation towards projects and all computer activities were slightly affected by their grade levels. It is also important to note that 33.8% of the surveyed students, who study in a computer-rich environment, still prefer to use paper-and-pen materials. In this sample it was Grade 9 and Grade 12 students who showed the greatest inclination towards traditional methods. This might be explained by the Grade 9 recent use of computer for learning. Grade 12 students, however, are more motivated by meeting the requirements of the IELTS examination. To prepare for this high-stakes paper-and-pen exam students believe that they need to use similar materials. They know that this exam requires some basic skills related to time management, location of basic information, and the use of bottom-up and top-down reading techniques where they use a pencil to mark possible answers and special reference items.

Students' quantitative results showed a relative lack of email use in the school. This problem was not related to a communication breakdown, but to the availability of other options. In fact, all teachers were using emails to communicate with their students, but due to teachers' complaints about students' checking their emails in class, new approaches were implemented. Many teachers were using Edmodo ([www.edmodo.com](http://www.edmodo.com)) in order to send materials and emails to the students because of

its user-friendly properties. Now the majority of teachers are moving the school platform, [plato.iat.ac.ae](http://plato.iat.ac.ae), to assign work and send messages to students. Though many teachers are still using emails, it is just a matter of time before all correspondence is carried through the new platform.

The third purpose of this study was to determine teachers' success at using technology for instructional purposes. Classroom observations showed that all the teachers observed scored from "Good" to "Excellent." Contrary to the literature, the classroom observation showed that the three observed teachers were very professional users of technology, and implemented it to serve all their needs, and to address the individual needs of their students. This is in contrast to the findings of writers such as Anderson and Becker, (2001), Cuban (2001), Green (2001), and McCannon and Crews (2000). Another important finding that contradicts literature (Cuban, Kirkpatrick, & Peck, 2001; Judson, 2006; Wang, 2002; Windschitl & Sahl, 2002) is that computers changed the teachers' ways of teaching, and that teachers did not have attitudes that conflicted with their practices.

These teachers' success in implementing technology is partially attributed to the fact that, except for one, all teachers surveyed had been using technology for four years or more. Also, these teachers are constantly observed and evaluated based on their use of computers in teaching. Even teachers who face difficulties coordinate with colleagues and get support whenever required. Teachers who face problems are allowed to observe classes where computers are fully integrated into the course.

The fourth purpose of this study was to identify the challenges that teachers and students face. On the one hand, while all the teachers believe that "appropriate professional development helps them integrate technology in the classrooms," the majority of the interviewed teachers (12) either did not receive any formal professional development, or what they received was inappropriate. Also, the majority of teachers reported problems related to Internet connectivity as well as the lack of technical support. Similar to observations by Kladko (2005), McWilliams (2005), Szaniszlo (2006), and Young (2006), another major problem that teachers face is the frustration they experience as a result of students' getting distracted. Most students, however, reported connectivity problems, lack of technical support, and use of proxy to block access to special websites as their most challenging problems.

## **Implications of the Study**

It is important to conclude that the level of technology integration observed in this school is a result of clear plans from the management who invested fully in providing hardware and software. By adopting a school vision that targets technology integration, and empowering students with the 21<sup>st</sup> century skills, the management did not leave much choice to the teachers. The follow up process, and the classroom observations kept teachers on track and motivated them to go further.

It is also clear that professional development plays a major role in the success of technology integration, but the way it is actually carried out does not seem to do so. Some teachers suggested more investment in high-quality training courses and commented that the time of these training courses should not conflict with their personal schedules, and the content should meet the urgent needs of the teachers. These training courses should in no way be arbitrary or filling in gaps for quality assurance purposes. Another suggestion was to hire professional technology specialists whose job is to help teachers in planning, designing, and implementing interactive materials. Since many teachers see the value of observing successful teachers in action, many teachers suggest giving new teachers a light teaching schedule to have enough time to attend classes and to ask for support.

Technical support, on the other hand, needs to be taken into consideration. Hiring more technicians could be a sound idea to save teachers' time and to allow better technology use. It might also be a good idea to involve IT students in grades 11 and 12 in maintaining other students' computers, and to award them with voluntary service credits that they are required to accumulate for their graduation. It is also important to improve the Internet bandwidth, and to remove the proxy on students' computers, as it is technically easy to identify individual students who violate the rules. Buying software that allows teachers to monitor students' computers could also be a good idea that would increase motivation towards more computer implementation.

Moreover, it is important to reconsider the teachers' observation form. It does not seem appropriate to use a one-size-fits-all form and evaluate a teacher's performance based on technology use only, while his/her students are supposed to sit for a pen-and-paper exam. Classroom observation, therefore, should take grade level into consideration. It is probably a good idea to think about the suitable assessment forms that promote enhanced technology use.

Finally, teachers are not used to getting feedback based on research results. It

is, therefore, a good idea to share these findings with all teachers, to get them to appreciate the value of research, and, hopefully, motivate them to conduct their own research.

This research has shown successful teacher computer use. There are more steps, however, that teachers could take. Teachers need to take more risks when assigning collaborative tasks, even if they fear students' counterproductive multitasking. Changing seating arrangements as well as students' roles in their groups could help minimize this issue. It is also a good idea to divide any project into smaller tasks, and use regular checkpoints to make students submit their work regularly. Setting clear limits would help the teacher use the class time more appropriately, and allow better control of the students' performance.

It is important for teachers to see the value of research. Conducting research, or taking part in a study, provides useful information to all. Using the findings of this research, for example, will provide teachers with a great opportunity to learn about different practices and challenges that they might not have observed in their classrooms.

### **Limitations of the Study**

There has been little research on exploring attitudes of teachers and students towards the use of computers in EFL high schools in the United Arab Emirates. There has been even less research comparing teachers' attitudes with their classroom practices. The findings of this research may only be applicable to other male Applied Technology High Schools, as female Applied Technology High Schools may show different results. Moreover, the results may not be applicable to public schools because of the huge gap in technology infrastructure.

My research could have provided more generalizable findings had the teachers' interview population been larger. The student interview population is also very small compared to the large number of students who participated in the survey. In both quantitative data collection tools, grade 9 students and teachers were not represented. Classroom observations could have shed more light on teachers' computer use patterns with larger numbers of teacher participating.

Finally, I believe that there is much to be done to better understand the attitudes of teachers and students towards computer use, and to identify teachers' classroom computer practices. For more reliable results, it is a good idea to get a

sample (teachers and students) from all technology high schools, both male and female, and also teachers with varying degrees of experience and comfort with technology integration. Administrators, senior teachers, and technicians all play a major role in the success of technology integration, and should be included in future research. To obtain more generalizable findings, it would be useful to include public schools, as well as private schools, and to invite many professionals to help in conducting and analyzing the results.

### **Final Thoughts**

In conclusion, this study has highlighted the positive attitudes teachers and students at this particular school share about the use of computers in the classroom. It has also identified the alignment of teachers' attitudes with their classroom practices. It is important to remind teachers that success is only real when maintained, and is only maintained when shared. It is equally important to remind administrators that their positive attitudes are the driving force for all success teachers and students may achieve.

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## Appendices

### Appendix 1: Survey of Teachers' Attitudes to Technology Integration

Dear Colleagues,

Positive measures and appropriate recommendations rely on correct information. This survey is, therefore, designed to help provide information regarding the integration of computers and the Internet into language teaching classes. Your answers will be confidential and the information will not be used for any purpose other than to provide data for the thesis study *Exploring Attitudes of Teachers and Students to the Integration of Technology in EFL Classrooms*.

This survey consists of 3 sections and 4 pages. Please answer all items. Your time and efforts are highly appreciated.

Section 1: Personal data of respondent ✓

Gender:  Male  Female

Nationality: \_\_\_\_\_

Teaching Experience

1-5 Years  6-15 Years  16-20 Years  21+ Years

Education:

BA  MA  PHD

## Using Technology in Teaching

1 Year

2 Years

3 Years

4 + Years

### Interview & Observation

I agree to be interviewed:  Yes

I agree to be observed:  Yes

\*Name: \_\_\_\_\_ (Only if you agree to be interviewed and / or observed)

### Section 2: Teachers' Attitude to the use of Computers in Teaching

Please rate your belief in the following statements about using computers in instruction in your EFL class/classes. Please, tick (√) the appropriate box next to each statement that best indicates the extent to which you agree or disagree with it.

**SA** = Strongly Agree, **A** = Agree, **D** = Disagree, **SD** = Strongly Disagree

		<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>
		4	3	2	1
1	I like to use computers				
2	Computers help me become a better teacher.				
3	Computer use is part and parcel of every lesson				
4	I do not feel comfortable when I use a computer.				
5	I think that computers are not easy to use.				
6	Using computers makes me more creative.				
7	Using computers does not make my lessons more interesting.				
8	Emails secure a good connection between teacher and students.				

9	Computers are changing the world so rapidly.				
10	Using computers does not make me more creative.				
11	Students enjoy using computers for class learning				
12	Students can be on task whenever and wherever they like.				
13	The Internet makes students more motivated.				
14	Students work harder on their assignments when they use computers.				
15	Students help one another more while doing computer work.				
16	Computers stimulate creativity in students.				
17	Computers enhance students' learning.				
18	Computers help students get organized.				
19	Students using computers in the classroom are hard to manage.				
20	Students may check their emails, listen to music or play games when they are supposed to be on task.				
21	Appropriate professional development helps me integrate technology in my instruction.				
22	I like to use the Internet to learn about computer programs.				
23	I like to learn more about computers by asking my colleagues.				
24	I like to learn about computers by watching other teachers in action.				
25	I get immediate technical support from the school technician.				

Adapted from: Prince Hycy Bull (2003)

Section 3: Challenges facing technology integration:

1. What problems do you face that interfere with your use of computers in the classroom?

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2. Do you think you have appropriate professional development opportunities to help you implement technology integration? How so?

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3. Do you think that using computers in the classroom has any negative effects on students' learning? If so, what are they?

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4. Please write any additional comments regarding the use of computers as a teaching and learning tool.

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Thank you for your time and support.

## Appendix 2: Teachers' Interview Questions

- When and how have you been trained to use technology (computers) in teaching?

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- Do you have any difficulties managing your classroom when using technology? How do you overcome them?

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- Do you think current classroom materials meet the needs of the students?  
How?

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- Do you think that monitoring computer use and controlling access to the Internet in the classroom make students more focused?

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- What do you do when the Internet connection is down?

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### Appendix 3: Classroom Observation Form

Grade:		Section:		Date:	__/__/2012	Time:	45 minutes		
Teacher's Name:									
Criteria					Rating				
					U	N	G	E	
1. The teacher uses technology effectively and creatively to introduce the lesson.									
2. The teacher assigns tasks that are relevant and meaningful to the students.									
3. The teacher creates a learning context that supports a regular use technology.									
4. The teacher creates a learning context that supports students' choice of technology tools that best serve the task.									
5. The teacher creates a context that includes access to a variety of technology tools.									
6. The teacher facilitates students' selection of technology tools.									
7. The teacher imposes some restrictions on students to keep them on task and to ensure healthy and safe use of technologies.									
8. The teacher encourages students to work individually.									

9. Teacher encourages students to use technology tools collaboratively.					
10. The students show familiarity with the technologies used in the classroom.					
11. Teacher emphasizes task based language instruction and/or project-based activities.					
12. Teacher uses evaluation tools that assess students' achievement.					
13. Teacher tolerates and encourages individual differences.					
14. Teacher differentiates instruction to serve the needs of individual students.					

15. Length of time of technology use: 00:00			
U: Unsatisfactory	N: Needs Improvement	G: Good	E: Excellent
0-15 Minutes	16-20 Minutes	21-30 Minutes	31 +

Adapted from: <http://fcit.usf.edu/matrix/goaldirected.php>

## Appendix 4: Survey of Students' Attitudes Towards Technology Integration

Dear Students,

This survey is designed to help us collect information regarding the use of computers and the Internet in the classroom. All your answers, and personal information will be treated as strictly confidential and the information you provide will only be used for this research.

This survey consists of 3 sections and 2 pages. Please answer all questions. Your time and efforts are highly appreciated.

Section 1: Personal data of respondent

Age: \_\_\_\_\_

Grade and Section: \_\_\_\_\_

Interview

I agree to be interviewed

Name: \_\_\_\_\_ (If you agree to be interviewed).

Section 2: Students' Attitudes to the use of Computers in Learning

Please rate your views of the following statements about using computers in instruction in your EFL class/classes. Please, tick (√) the box next to each statement that best indicates the extent to which you agree or disagree with it (statements inserted in Survey Monkey allowing students to tick ONLY one option out of four).

SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree

I enjoy using computers in the classroom.	1
Computers help me find information easily.	2
I prefer using computers to printed materials.	3
I like to use computers to communicate with my friends.	4
I think that computers are very easy to use.	5
Using computers makes me more creative.	6
Using computers makes me more organized.	7
Using computers helps me communicate with my teachers and classmates easily.	8
Using computers in the classroom is a waste of time.	9
The Internet makes me more motivated.	10
The teacher enjoys using computers.	11
Computers are used in every lesson.	12
Students help one another more while doing computer work.	13
Most computer activities are repetitive and boring.	14
Teachers use videos and interactive materials.	15
Teachers help us understand how to use computers as a learning tool.	16
We cannot download useful materials due to administrative restrictions.	17
The school proxy prevents us from accessing useful websites.	18
Getting technical support takes a lot time.	19
The Internet bandwidth is suitable for all our activities.	20

Arabic Translation (Pasted in Survey Monkey with the English version).

1	انا استمتع باستعمال الحاسوب في الفصل.
2	يساعدني الحاسوب على الحصول على المعلومات بكل ي
3	انا افضل استعمال الحاسوب على الاوراق المطبوعة.
4	احب استعمال الحاسوب للتواصل مع اصدقائي.
5	الحاسوب سهل الاستخدام.
6	ان استخدام الحاسوب يجعلني اكثر ابداعا.
7	ان استخدام الحاسوب يجعلني اكثر تنظيما.
8	ان استخدام الحاسوب يساعدني على التواصل مع اساتذتي و زملائي بكل يسر.
9	ان استخدام الحاسوب داخل فصل هو مضيعة للوقت.
10	تجعلني الانترنت اكثر حيوية داخل الفصل.
11	يستمتع المدرس عند استخدام الحاسوب داخل الفصل.
12	يستخدم الحاسوب في كل حصة دراسية.
13	يساعد الطلبة بعضهم بعضا بشكل اكبر عند استخدام الحاسوب.
14	اكثر التمارين و الانشطة مكررة و مملة.
15	يستخدم المدرس مقاطع فيديو و مواد تفاعلية.
16	يساعدنا المدرس على استخدام الحاسوب كوسيلة تعليمية.
17	لا نستطيع تنزيل مواد مهمة بسبب القيود الادارية.
18	يمنعنا مشغل الوكيل(proxy) من الوصول الى مواقع الكترونية مهمة.
19	ان الحصول على الدعم الفني يستغرق وقتا طويلا.
20	ان سرعة الانترنت مناسبة لكل الانشطة التعليمية.

Section 3: Challenges facing technology integration:

1. What problems do you face that prevent you from using computers effectively in class?

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2. Do you need help to use computers for learning? If so, how?

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3. Please write any additional comments regarding the use of computers as a teaching and learning tool.

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Thank you for your time and support.

## Appendix 5: Students' Interview Questions

- What computer activities do you enjoy most in the classroom?

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- Do you think that books will be used in the classroom of the future? Why or why not?

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- Do you think that students are able to focus on their tasks while using computers? Why or why not?

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- Do you like to have computer or paper-and-pen tests? Why or why not?

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- Do you think the age of your teacher plays a role on his use of technology in class? If so, how?

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## Appendix 6: Teachers' Responses to Survey and Open-ended Questions

### A. Teachers' Responses to survey Questions

		SA	A	Total	%	D	SD	Total	%
1	I like to use computers	8	5	13	92.9	1	0	1	7.1
2	Computers help me become a better teacher.	8	4	12	85.7	2	0	2	14.3
3	Computer use is part and parcel of every lesson	4	5	9	64.3	4	1	5	35.7
4	I do not feel comfortable when I use a computer.	0	0	0	0.0	3	11	14	100.0
5	I think that computers are not easy to use.	1	1	2	14.3	7	5	12	85.7
6	Using computers makes me more creative.	6	6	12	85.7	2	0	2	14.3
7	Using computers does not make my lessons more interesting.	0	3	3	21.4	5	6	11	78.6
8	Emails secure a good connection between teacher and students.	2	7	9	64.3	5	0	5	35.7
9	Computers are changing the world too rapidly.	6	5	11	78.6	3	0	3	21.4
10	Using computers does not make me more creative.	0	2	2	14.3	7	5	12	85.7
11	Students enjoy using computers for class learning	4	10	14	100.0	0	0	0	0.0
12	Students can be on task whenever and wherever they like.	2	10	12	85.7	2	0	2	14.3
13	The Internet makes students more motivated.	2	9	11	78.6	3	0	3	21.4
14	Students work harder on their assignments when they use	2	6	8	57.1	6	0	6	42.9

	computers.								
15	Students help one another more while doing computer work.	2	5	7	50.0	7	0	7	50.0
16	Computers stimulate creativity in students.	3	9	12	85.7	2	0	2	14.3
17	Computers enhance students' learning.	4	10	14	100.0	0	0	0	0.0
18	Computers help students get organized.	4	9	13	92.9	1	0	1	7.1
19	Students using computers in the classroom are hard to manage.	2	6	8	57.1	3	3	6	42.9
20	Students may check their emails, listen to music or play games when they are supposed to be on task.	5	3	8	57.1	5	1	6	42.9
21	Appropriate professional development helps me integrate technology in my instruction.	4	8	12	85.7	2	0	2	14.3
22	I like to use the Internet to learn about computer programs.	6	6	12	85.7	3	0	3	21.4
23	I like to learn more about computers by asking my colleagues.	5	7	12	85.7	2	0	2	14.3
24	I like to learn about computers by watching other teachers in action.	2	9	11	78.6	3	0	3	21.4
25	I get immediate technical support from the school technician.	1	4	5	35.7	6	3	9	64.3

## B. Teachers Responses to Open-Ended Questions

Section 3: Challenges facing technology integration:

1. What problems do you face that interfere with your use of computers in the classroom?

#	Yes/No	Response
T1		We have a lot of problems with internet connectivity. Sometimes students' laptops get disconnected from the network while on task which makes them distracted.
T2		Technical support is not always available. Some students get distracted when using computers for a long time.
T3		Connectivity Maintain students interest and focus
T4		Internet connectivity Recharged battery Students remaining on task (distracted) Loading time/ internet speed
T5		Problems with connectivity.
T6		Poor and inadequate Internet connectivity.
T7		Students are distracted. Might not be working on the task itself, rather doing other things on the computer. No chargers are bought to class.
T8		Internet connection is not always available.
T9		Lack of proper training Copying/cheating Slow internet Student computer problems
T10		The biggest problem I face is students using their laptops for things other than what they should be doing. Laptops are wonderful tools but they can also distract students from learning.
T11		Technical glitches and students not on task because they are using computers for other things.
T12		No answer
T13		Poor connectivity
T14		Technical support is not always available whenever and wherever needed.

2. Do you think you have appropriate professional development opportunities to help you implement technology integration? How so?

#	Yes/No	Response
T1	No	Rare PD sessions in an inappropriate time which makes teachers uninterested to attend. Teachers depend on self PD.
T2	No	The available PD opportunities do not match my professional needs.
T3	A little	More in-house PD programs should be presented in order to keep up with modern educational technology materials.
T4	No	There are very few PDs. Those that are offered are not typically specific for the Mac operating system.
T5	Yes	I attended PD sessions. I also get help from colleagues.
T6	No	I don't. I didn't have any professional development to help me implement technology integration.
T7	No	We had no training.
T8	Yes	
T9	No	Most are surface level PD sessions with little to no follow up. We have received no training in how to effectively use our computers.
T10	Not really	I would like more focused training mostly just to be exposed to new ideas and tools.
T11	Not really	PD session always seem rushed and offer little or no time for practice.
T12	No	I like training in programs that offer students an opportunity for creativity.
T13	No	I don't
T14	Not really	Employers are not always ready to fund such PD programs. They look for free and promotional ones instead.

3. Do you think that using computers in the classroom has any negative effects on students' learning? If so, what are they?

#	Yes/No	Response
T1	No	Computers nowadays play a major role in motivating students and getting them to grow as independent learners.
T2	No	In general it has more positive impact on students' learning as it enables students to work according to their pacing. However, it may be seen as a source of distraction to unmotivated learners.
T3	Yes	I think it does have negative effects on students' learning. Using technology negatively affects students' writing, their focus in class and outside class.
T4	Yes	They have fewer opportunities to develop writing skills when always compiling assignment on the computer. Also they are more opt to copy.
T5	Yes	Though computers are useful, some students may get distracted and focus more on playing games than on learning.
T6	No	I don't. I think that using computers in the classroom has a lot of positive effects on students' learning.
T7		There is less instruction so students are supposed to be independent in researching materials, completing online tasks. Materials they find are too challenging sometimes so they tend to use anything copied and pasted rather than understood.
T8	No	
T9	Yes	Too much emphasis on technology Students need to practice writing and reading on paper (e.g., IELTS Prep). Too many distractions (messaging, games, etc.) Technical problems (students may not bring their laptops)
T10	Yes	Computers can cause distraction. Also computers make copying easier. In the past when students copied homework, at least they had the time to copy by hand.
T11	Yes	It facilitates copying and cheating amongst students and plagiarism

		from external sources, as well as being a source of distraction.
T12	Yes	They aren't focused on the lesson. They chat, check emails and sometimes may listen to music.
T13	No	
T14	Yes	Technology is becoming a target in itself.

4. Please write any additional comments regarding the use of computers as a teaching and learning tool.

#	Free Response	Response
1		I believe that computers provide an interesting atmosphere to students when they use them for learning purposes. The integration of technological tools has also a positive impact on the traditional beliefs and ideologies of teaching.
2		I believe that technology is a powerful tool. It all depends on how and when to use it. The excessive use may have some negative influences on the learning process. It should be seen as a means to an end, not an end in itself.
3		Computers are tools, but their potentials are enormous if used wisely. Students like to use them. However, the focus should be balanced on acquiring pedagogy and technology.
4		Technology is not going anywhere! Today's students need to be comfortable with using and manipulating technology to further develop themselves academically and professionally.
5		I would recommend to involve students in a variety of activities both paper and pen and computer-based because you can't make students use computers [in] every class and for a long time.
6		Students gain word processing skills when learning to type on computer, skills they will need in their college and the workplace. Collaboration between students and easier communication with teachers.
7		Teachers shouldn't rely on computers as part of their teaching. They need proper guidance from the teachers as well.

8		
9		There is a need for an effective in class monitoring program so teachers can keep students on track more easily.
10		<i>I feel that using computers in education is no longer a novel or special idea; it is the current reality. There are benefits and drawbacks but these are part of the new paradigm in education that educators must get used to.</i>
11		No answer.
12		No answer.
13		No answer.
14		No answer.

## **Vita**

Abdallah Tanfourri received a BA in English Language literature from the University of Arts and Human Sciences in Tunisia in 1991. He taught English for 3 years before moving to the UAE in 1994. Mr. Tanfourri joined Tesol Arabia in 1996 when it started its first chapter in Al-Ain. He also worked in 3 Model schools, and acted as a teacher mentor for 7 years. In 2007 he moved to the Institute of Applied Technology in Al-Ain where he is still working.