

**Students' and teachers' perspectives about using
students' laptops in a career-based technical high
school in the United Arab Emirates**

وجهات نظر الطلبة والمعلمين حول استخدام الطلبة لأجهزة الحاسوب المحمول
في مدرسة ثانوية تقنية مستندة إلى المهنة في الإمارات العربية المتحدة

By

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Dissertation submitted in partial fulfillment of the requirements
for the degree of MEd in Education

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September-2012

Abstract

The main aim of this research was to explore the students' and teachers' perspectives about using students' laptops in a career-based technical high school in the United Arab Emirates during a time interval of two academic years. The high school goals of adopting the project were to enhance the educational experience of students, to foster learning, and to transform learning into an exciting, fun, and fulfilling experience. Questionnaires were circulated to the students and teachers of the high school after two and three academic years of adopting the One-To-One E-Learning project to ensure the project is doing what it was designed to do and to assess the extent to which the students and teachers support its implementation in their school. The research was conducted over two academic years to own rich data that may construct a solid base for a comparison study. The findings were analyzed and a comparison was held to discover the similarities and differences between the perspectives of students and teachers in the two academic years.

One major finding was that the feedback of students was positive and they were clear about their perspectives while their teachers in most of the cases were uncertain and neutral. Another finding is that both of them are supporting the implementation of the project in their school with a high percentage even though they have some concerns. Based on the findings and the comparison, the study suggested conducting a critical review for the policy on adopting the One-To-One E-Learning project in the high school under study, concluded the need for deeper research and wider comparisons, and drew recommendations for further study and implications.

Keywords: students' perspectives, teachers' perspectives, students' laptops,

E- Learning, One-To-One

خلاصة

كان الهدف الرئيسي لهذا البحث هو استكشاف وجهات نظر الطلبة والمعلمين حول استخدام الطلبة لأجهزة الحاسوب المحمول في مدرسة ثانوية تقنية مستندة إلى المهنة في الإمارات العربية المتحدة أثناء فترة زمنية امتدت لعامين دراسيين. كانت أهداف المدرسة الثانوية من اعتماد المشروع هي تعزيز التجربة التربوية للطلبة، دعم عملية التعلم، وتحويل العملية التعليمية إلى تجربة مثيرة، ممتعة، ومباشرة.

تم توزيع الاستبيانات على طلبة ومعلمي المدرسة الثانوية بعد عامين دراسيين من اعتماد مشروع واحد لواء حول التعلم الإلكتروني ثم بعد عام دراسي آخر لضمان فيما إذا كان المشروع يقوم بما صُمم له أن يقوم به ولتقييم مدى دعم ومساندة الطلبة والمعلمين لتطبيقه في مدرستهم. لقد أجري هذا البحث خلال عامين دراسيين لامتلاك بيانات غنية قد تُنشئ أساساً صلباً لدراسة مقارنة. تم تحليل النتائج وعقد مقارنة لاكتشاف التشابهات والاختلافات بين وجهات نظر الطلبة والمعلمين في العامين الدراسيين المعنيين.

أحد النتائج الرئيسية كان إيجابية تعليقات الطلبة ووضوح رؤيتهم حول وجهات نظرهم بينما كان معلومهم غير واثقين في معظم الأحوال وحياديين. وتم الخروج بنتيجة أخرى وهي أن كلاً من الطلبة والمعلمين أبدوا دعماً لتطبيق المشروع في مدرستهم بنسبة مئوية عالية بالرغم من إبدائهم لبعض المخاوف.

وبناءً على النتائج والمقارنة، فإن هذه الدراسة قد اقترحت إجراء مراجعة نقدية لسياسة اعتماد مشروع واحد لواء حول التعلم الإلكتروني في المدرسة الثانوية قيد البحث، واستنتجت الحاجة الملحة لبحثٍ أعمق ومقارناتٍ أوسع، ورسمت بعض التوصيات للمزيد من الدراسة والآثار المترتبة عليها.

كلمات البحث: وجهات نظر الطلبة، وجهات نظر المعلمين، أجهزة الحاسوب المحمول للطلبة، التعلم الإلكتروني، واحد لواء

Dedication

To my beloved wife, May. Without your love, patience, support, and encouragement I couldn't finish this research.

To my two princesses, Haya and Mira. Your continuous question (when you will finish?) was a great motivation to achieve this study. Hope you will understand and forgive me for being away for so long time.

To all my students during my 19 years of teaching from whom I have learned a lot, every day in my career life.

Acknowledgements

I'm grateful and thankful to Dr. Clifton Chadwick, my dissertation supervisor, for his continued support and guidance during the research and to Mr. Richard Summerfield, my principal, for granting the needed permission to conduct the questionnaire for all the students and teachers in the school in two consecutive academic years.

My deep appreciation is due to all the students and teachers who participated freely in the questionnaire and whom their honest and subjective opinions were the solid base of the research.

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1. Introduction

1.1. Background

The United Arab Emirates was one of the leading countries to plan and work on reshaping the future of its new generations by continuously reviewing the axes of the educational process in its schools. A major one of these axes is the teaching and learning tools used in schools which may have a considerable impact on the well-presenting of the curriculum by the teachers and on the academic achievement of the students. Based on the high expectations of its leaders, their visions towards more competitive knowledge-based economy between the nations, and the great diversity of its population, the United Arab Emirates kept adopting and trying different and wide range of educational experiences, projects, and initiatives which were seem to be attractive and well-promoted to be adapted and followed by the country's public and private schools as well.

In 2005, a career-based technical high school was founded in the United Arab Emirates as an initiative to provide its national students with a 'world-class career technical education system' in order 'to build a knowledge-based economy' as stated by the school's vision when established. The project of the high school was expanded later to establish total of five branches in the United Arab Emirates in four years. In 2009, the high management of the school has adopted a One-To-One E-Learning project in which a laptop computer device was distributed for every student and teacher in the five branches, all the buildings in all campuses were provided with a wireless internet network, an internal network was established, and all classrooms were equipped with data-show projectors for the laptops to be connected with.

The school was trying to 'respond to the emerging need for educational technology' and speaking the language of the young generation by 'bringing the tools of technology to the classroom' after realizing that the 'interactive technology has become a significant tool of 21st century pedagogy'. The project was 'designed to

enhance the educational experience of students', to 'foster learning', and 'to transform learning into an exciting, fun, and fulfilling experience' (IAT 2009).

1.2. Statement of the problem

'A customized learning environment for each individual student' was 'the aim of One-To-One E-Learning' project (IAT 2009). Since the students were the main target of adopting such a project, it is worth while to explore their opinions after two years of launching the project. Research on the students' and teachers' perspectives about the project and comparing the findings from one academic year with the findings from the next academic year may contribute in revealing trends of how the students and teachers think about it and may result in providing means for making improvements. The current research started after two years of adopting the One-To-One E-Learning project in order to explore the opinions and perspectives of the students and teachers about using the students' laptop computer devices for educational purposes and to try to measure the extent to which the students and teachers support using the students' laptop computer devices in the teaching and learning process in the career-based technical high school.

1.3. Research questions

The research questions are:

1) What are the students' and teachers' perspectives about using students' laptops in a career-based technical high school in the United Arab Emirates in two consecutive academic years?

Hypothesis: In general, most of the students are expected to find the One-To-One E-Learning project useful and enjoyable with a significant support to it. Teachers may consider it useful and efficient but with a less support to be expressed.

Grade nine and grade ten students may find it useful and enjoyable to use their laptops for educational purposes because of their younger age or due to their lighter

curriculum and less responsibilities while grade eleven and grade twelve students may feel the pressure of utilizing a new technology with their heavy loads and responsibilities. All students may support using their laptops in the school but probably the support from grade nine and ten will be greater.

English and ICT teachers are expected to consider the project as efficient and effective for their subjects and to remarkably support it while science, math, and applied technology teachers may have some concerns about it and may show less support to it.

2) How can the perspectives of the students and of the teachers in a career-based technical high school in the United Arab Emirates, be compared to their perspectives in the following academic year after experiencing the One-To-One E-Learning project for one more academic year?

Hypothesis: Students may get used to use their laptops in their learning process after one more academic year and they could find it easier and faster to accomplish their educational assignments and may show greater support to the project than the previous academic year. The perspectives of teachers after one more academic year could be affected by their professional development programs to get used to utilize the students' laptops in the educational scene and by the ability of the curriculum designers to facilitate the teachers' job with a well-designed technology-integrated curriculum after one more academic year of implementing the project. This may slightly increase the teachers' support to the project.

1.4. Significance of the study

The answers of the research questions may provide an insight for the school management concerning the students' and teachers' perspectives about using the students' laptops in the career-based technical high school which may lead to a critical review for the One-To-One E-Learning project adopted by the school after three years of applying it to meet the needs and expectations of two major elements in

the teaching and learning process in that school, the students and the teachers. Conducting this research and analyzing the findings with comparisons may help the school management to direct the project's compass towards more efficient implementation of it in an effort to maximize the quality assurance and to achieve the envisaged results of the project after studying the trends of students' and teachers' perspectives in two consecutive academic years.

1.5. Methodology of the research

In order to answer the research questions and to draw the needed recommendations, the research is designed to survey a remarkable sample of students in all the four grades in one branch of the career-based technical high school in the United Arab Emirates, from grade nine to grade twelve, in two consecutive academic years to compare the perspectives of students in one academic year with their perspectives in the following academic year to try to measure the development of their perspectives after experiencing the One-To-One E-Learning project for one more academic year. Trying to measure the extent to which the students support implementing the project in their school is another objective from conducting the current study.

Also, a remarkable sample of the teachers, as another important element in applying the One-To-One E-Learning project, from the same branch of the high school is to be surveyed for their perspectives about using students' laptops and to try to measure the extent to which they support using students' laptops in the teaching and learning process in the school. The research compares the perspectives of teachers in two consecutive academic years to try to measure the development of their perspectives after one more academic year of students using their laptops for educational purposes. An analysis for both surveys in the two academic years to be done and a comparison to be discussed based on the findings and their analysis.

1.6. Limitations

The research is limited for one branch of the career-based technical high school in the United Arab Emirates due to the abstention of the high management of the school to guarantee an approval for more comprehensive survey for all students and teachers in all the five campuses in the United Arab Emirates based on the unavailability of a specific policy for conducting academic research in the school. In fact, the researcher request for an approval to conduct the survey in the five branches of the high school has spun an entire development for policies and procedures and the higher management have dedicated one of their staff to develop an academic research policy to be adopted and followed in case of any academic research to be conducted within or about the career-based technical high school as an educational system as explained in an email from a member in the high management of the school to the researcher on 6 June 2010.

1.7. Organization of the dissertation

The research will review the literature concerning using students' laptops for educational purposes and the literature concerning the students' and teachers' perspectives about using the students' laptops in the teaching and learning process. Then, the research will describe the methodology to be used in the data collection and analysis and will present the collected data with a detailed analysis and comparisons. Finally, the research paper will conclude the study drawing the suggested recommendations for further study and implications.

2. Literature Review

Integrating technology in education is one of the most topics studied and discussed in research in the last two decades. A huge amount of papers, articles, studies, dissertations and theses, and recently books discussed the issue from different aspects and dealt with many variables to investigate the advantages and disadvantages of utilizing such a new trend in the educational contexts. Some of these were very excited and enthusiastic for the new era in education with integrating a wide range of technological tools within the teaching and learning process in schools and higher education institutions (Lowther, Ross, & Morrison, 2003), some of them were skeptical and reluctant in showing the support or the opposition waiting for more evidences to decide on any direction to intensify their efforts (Kulesza, DeHondt II, & Nezlek, 2011), and some of them tried to face the stream and to prove the lack of usefulness and irrelevance approach of integrating technology within education (Yamamota, 2007).

The new generations who were raised in the last two decades and who were the main recipients of the educational outcomes all over the world has spoken with their new technological language insisting on the world, especially the educators, to listen to them and to take their opinions and points of view into consideration when planning or implementing any project to touch their lives and learning. Their unintentional unified speech all over the world through the technology of social networks encouraged those who were very excited and supportive to show more enthusiasm for integrating technology into education, pushed those who were reluctant to more understanding to their expectations and more sympathy with their needs, and faced those who faced their dreams in an interesting and interactive learning experiences in their daily academic field trips to their schools and higher education institutions.

One of the most interesting and most discussed initiatives in the field was the One-To-One E-Learning project which started to invade the educational world recently and aimed to speak the same language of the new digital generations and to provide

them with the tools they need to make their daily intellectual and cognitive experiences with different subjects and sciences more interesting, attractive, and alive. These projects were designed to provide one computer device (more recently laptops and tablets) to every student so the student can customize his/her own learning environment depending on his/her own educational needs and learning expectations. 'One to one laptop programs are expanding rapidly across the world with large-scale initiatives' (State of NSW, 2009). 'It's worth keeping in mind that laptops are only a tool. They're at our disposal to make learning easier, and more enjoyable and meaningful for children.' (Holmes, 2008)

The United Arab Emirates (UAE) was one of these nations who assigned huge investments in their new generations' futures and started to adopt such One-To-One projects and to plan reaching the full capacity of the 1:1 program in the year 2010 (Ministry of Education and Youth 2000). The most recent initiative in this context was Sheikh Mohammad Bin Rashed Al Maktoum's, the Vice-President of the UAE and the Prime Minister and the Ruler of Dubai, initiative for smart learning in schools (K-12) and higher education in which an iPad tablet to be distributed for every student in the UAE gradually through stages and to prepare the technological environment and infrastructure to be ready to deal with this major breakthrough in the history of this nation.

Maybe the rush of adopting such projects without sufficient planning made many of the educational institutions in the UAE started implementing One-To-One programs for specific objectives, most of them without consulting or enough training the two main stakeholders, students and teachers. Hence the importance of getting continuous feedback from these two elements of the educational process and seeking their support for such projects by exploring their opinions and perspectives about all the aspects involved and ensuring they are with the same boat with the higher management of the educational institutions to make implementing such projects is a huge success and beneficial.

The career-based technical high school under study was founded in the UAE in 2005 and started implementing its One-To-One E-Learning project in 2009 by distributing a laptop computer device for every student and teacher and promoting the technological infrastructure to cope with the new adopted project. This research is one of the means to reach the students and teachers by listening to their ideas in order to understand their needs and expectations and to use these in an academic study that may contribute in improving and developing the implementation of the project in the high school under research. 'It is really not about the laptops. It's about what the 1:1 laptops enable in terms of new ways of teaching and learning' (Dunleavy, Dextert & Heinecket, 2007).

Uncovering and collecting data about the students' and teachers' perspectives and opinions, analyzing them, extracting conclusions and drawing recommendations are crucial to the success of such innovations and as important as expressing support and sharing experiences. The straightforward way to do so is to survey the audience about their opinions and to analyze the findings carefully. According to (Bell 1999), all respondents participating in a certain survey will be asked the same questions in the same circumstances and it is necessary to make sure that all respondents will understand all questions equally by careful piloting.

Surveying the students and teachers of any educational institute about their opinions in a policy adopted by their school may grant them a feel of belonging and may encourage them to be involved in supporting these policies and offer proper feedback in order to enhance the benefits of implementing such policies. However, Surveying is not offering solutions and not analyzing the causes but it is a diagnostic for a current situation needed to be identified and studied (Bell, 1999). Students are very positive about the use of laptops with many believing they had a very positive impact on how much they learned at school and influenced how well they could work with others at school (Zucker & Hug 2007).

Previous researches which tried to discover the students' and teachers' points of view about integrating laptops in the classroom sought information and feelings of students and teachers about many aspects of using the students' laptops in the classroom.

Some of these aspects are: amount of the laptop usage in the classroom (Awan, 2012a, 2012b), subjects in which the usage of laptops is very frequent or less (Awan, 2012a), the main educational activities, in which the laptops can be used (Awan, 2012a, 2012b), and the effect of using laptops in the classroom on the following: students' attention to teachers, students' understanding, students' academic achievement (Kay & Lauricella 2011), students' behavior, classroom time management, and transforming the lesson into fun and enjoyable practice (Khalid, Chin, & Nuhfer-Halten, 2012) .

Most of the revised researches concluded that English or languages in general were the subjects in which the majority of the students use their laptops in (Grimes & Warschauer 2008) and (Zucker & Hug 2007). The researcher didn't find any results about Arabic and Islamic studies and applied technology courses since the career-based technical high school under study teach both subjects beside math, science, and ICT.

Many papers discussed the educational activities in which the students' laptops can be used in the classroom especially in the UAE (Awan, 2012a, 2012b) and found writing, taking notes, and searching for relevant information are the main educational activities in which the students can be involved in with their laptops besides the other activities such as chatting, playing games, watching movies, and using the social network websites.

When searching the effect of using laptops in the classroom on the students' attention to teachers, some researches highlighted the factor of distraction by laptops (Yamamoto, 2007), (Borbone, 2009), (Tagsold, 2012) and its effect on the students' achievement. Moreover, (Haydn & Barton, 2007) considered maintaining control of

class with laptops as an issue to be taken into consideration. ‘Laptops can provide disruptive and competitive distractions in class’ (State of NSW, 2009).

Research on the effect of using students’ laptops on their understanding not exactly found but instead Yamamoto (2007) discussed its effect on using the students’ memory and consuming it while a lot of researchers discussed the effect on students’ achievement without discussing the effect on the understanding and acquisition of the knowledge without linking it to the marks of exams or other assignments.

No other issues were discussed deeply in the recent research papers in related to the students’ behavior when using the laptop in the classroom other than being a source of distraction and distracting others except light hints from Yamamoto (2007) about the level of noise when using laptops in class and the students being more respectful to others in case no use of laptops in the class.

The effect of using laptops in the classroom on the classroom time management has two sides; the time needed by students to do their assignments and activities and the time run by the teacher to execute the lesson plan. Almekhlafi (2006a, 2006b) suggested that integrating technology in the classroom allows students to learn more in less time. Other researchers (Yamamoto 2007) believed that the distraction caused mostly by the students using their laptops affects the time management of the teacher by wasting the class’s time on classroom management duties instead of teaching the lesson.

The researcher didn’t find any literature about comparing the perspectives of students and teachers in any educational institute which implementing any One-To-One E-Learning project from one academic year to another which may lead to the uniqueness of the current research.

3. Methodology

3.1. Overview

By adopting the One-To-One E-Learning project, the career-based technical high school under study was aiming to speak the language of the new generations by bringing technology to the classroom in an effort to enhance the learning experience of its students and to make it more fun and enjoyable by giving the opportunity for each individual student to customize his own learning environment using his laptop computer as an effective learning tool.

After two academic years of implementing the project, it was vital to explore the opinions of the students and their teachers about it and whether it succeeded to speak their language or not. The acceptance of the newly introduced project by the students and their teachers and showing the needed support for implementing it is a pivotal lever for its success.

Surveying the students and teachers about using students' laptops for educational purposes and assessing their support for implementing the project were necessary to measure how well the project achieved one of its objectives to transform the learning experience into a fun and enjoyable one. Exploring the opinions and points of view of students and teachers will be done using questionnaires. 'The aim of a survey is to obtain information which can be analyzed and patterns extracted and comparisons made' (Bell 1999).

Moreover, comparing the students' and teachers' perspectives about the project after two academic years of implementation with their perspectives after three academic years of implementation may contribute in graphing trends for the school management in any future review for the project and its implementations. The comparison study to be conducted when analyzing the results may explore such trends and provide scientific evidences for the current research to draw conclusions and to suggest recommendations for further research and implications.

However, asking the students about the implementation of the One-To-One E-Learning project may lead to imprecise answers by some students especially if they imagine that one of the consequences for conducting the survey will be deleting the project and withdrawing the laptops from them. Providing these laptops for them from the school may be considered as a privilege comparing to other public high schools. Some teachers, as well, may give imprecise responses if they feel the need to secure their jobs by supporting a project adopted and implemented by their school management and if they believe that there is no point or use to resist or oppose the change.

Comparing the perspectives of students and the perspectives of teachers should take into consideration the subjects being taught and the differences between the teaching methods used for delivering the curriculum from one subject to another and from a grade level to another.

The current study has a mixed methodology of qualitative and quantitative scopes. The students' and teachers' perspectives about the One-To-One E-Learning project in two consecutive academic years may construct a qualitative base for a comparison study with a quantitative content. Answering the first research question to know the students' and teachers' perspectives about the project in two consecutive academic years and to assess the extent to which these perspectives has changed or not after one more academic year of implementing the project have qualitative features. On the other hand, investing these perspectives in a comparison study for the numbers and percentages of the students and of the teachers in the next academic year may be considered with a quantitative value.

3.2. Research Design

The career-based technical high school under research is one branch out of five campuses in all over the United Arab Emirates. The permission to conduct the questionnaire for all the students and teachers of that branch was guaranteed after the abstention of the high management of the five schools to guarantee an approval for more comprehensive questionnaire for all students and teachers in all the five campuses in the United Arab Emirates based on the unavailability of a specific policy for conducting an academic research in and about the school.

All the students in the five campuses are Emaratis from the age of 14 to 18 and the same criteria for admission are followed by the five branches of the high school. Moreover, the same curriculum is adopted and the same weight of different subjects is guaranteed in the schedules of the five branches. The One-To-One E-Learning project was implemented at the same time in the five campuses.

The questionnaire was circulated in the school under research in two consecutive academic years after two and three academic years of implementing the project in that school. The total number of students in the school at the time of the first questionnaire was (607) students while the total number of them at the time of the second questionnaire was (556) students. The sample size of students who participated in the first questionnaire was (n= 400) with a percentage of (65.9%) distributed as: grade 9 students (n= 110), grade 10 students (n= 115), grade 11 students (n= 87), and grade 12 students (n= 88) while the sample size of students who participated in the second questionnaire was (n= 359) with a percentage of (64.6%) distributed as: grade 9 students (n= 97), grade 10 students (n= 109), grade 11 students (n= 93), and grade 12 students (n= 60).

For teachers, the total number of teachers in the school at the time of the first questionnaire was (42) teachers while the total number of them at the time of the second questionnaire was (46) teachers. The sample size of teachers who participated in the first questionnaire was (n= 36) with a percentage of (85.7%) distributed as:

English teachers (n= 9), science teachers (n= 9), math teachers (n= 7), applied technology teachers (n= 6), and ICT teachers (n= 5). The sample size of teachers who participated in the second questionnaire was (n= 36) with a percentage of (78.3%) distributed as: English teachers (n= 9), science teachers (n= 9), math teachers (n= 7), applied technology teachers (n= 6), and ICT teachers (n= 5) with the same number of the sample size and same distribution as the first questionnaire.

The first questionnaire was circulated in June 2011 after two academic years of implementing the One-To-One E-Learning project in the career-based technical high school while the second questionnaire was conducted in March 2012 after three academic years of implementing the project.

The same version of the questionnaire was distributed to all the students (Appendix II) inside their classrooms in both academic years, and the students were given fifteen minutes to respond to the 12 questions without discussing them with other students and to complete the questionnaire on the spot. It is important here to mention that the same version of questionnaire distributed to the students was in Arabic (Appendix I), their native language, to ensure the equal understanding of the questions by all students and to commit to the permitted time frame. The students were asked to choose one answer only from multiple possible answers in questions 1 and 2, to answer open questions in questions 3 and 4, to choose as many answers as they want from multiple possible answers in question 5, and to choose one answer only from a modified simple Likert scale of four points for questions 6 to 12 from strongly agree to strongly disagree.

Another version of the questionnaire was distributed to all the teachers (Appendix III) in both academic years, and the teachers were given one working day time frame to respond to the 10 questions. The teachers were asked to answer an open question in the first question, to choose one answer only from multiple possible answers in question 2, to choose as many answers as they want from multiple possible answers

in question 3, and to choose one answer only from a simplified Likert scale of five points for questions 4 to 10 from strongly agree to strongly disagree.

3.3. Treatment/intervention

The first questionnaire was conducted in June 2011 for all the students (n= 607) in the school who were distributed as following: grade 9 students (n= 167), grade 10 (n= 160), grade 11 (n= 143), and grade 12 (n= 137). The total number of received questionnaire papers was (n= 565) distributed as following: grade 9 (n= 153), grade 10 (n= 157), grade 11 (n= 129), and grade 12 (n= 126). A number of responses (n= 165) were excluded due to incomplete answers distributed as following: grade 9 (n= 43), grade 10 (n= 42), grade 11 (n= 42), and grade 12 (n= 38). Eventually, the total number of received complete and accepted questionnaires was (n= 400) with a percentage of (65.9%) from the total number of students distributed as following: grade 9 (n= 110), grade 10 (n= 115), grade 11 (n= 87), and grade 12 (n= 88).

The second questionnaire was conducted in March 2012 for all the students (n= 556) in the school who were distributed as following: grade 9 students (n= 153), grade 10 (n= 146), grade 11 (n= 131), and grade 12 (n= 126). The total number of received questionnaire papers was (n= 528) distributed as following: grade 9 (n= 143), grade 10 (n= 145), grade 11 (n= 129), and grade 12 (n= 111). A number of responses (n= 169) were excluded due to incomplete answers distributed as following: grade 9 (n= 46), grade 10 (n= 36), grade 11 (n= 36), and grade 12 (n= 51). Eventually, the total number of received complete and accepted questionnaires was (n= 359) with a percentage of (64.6%) from the total number of students distributed as following: grade 9 (n= 97), grade 10 (n= 109), grade 11 (n= 93), and grade 12 (n= 60).

For teachers, the first questionnaire was conducted for all the teachers, except Arabic and Islamic studies teachers, in the school (n= 42) who were distributed as following: English teachers (n= 11), science teachers (n= 10), math teachers (n= 8), applied technology teachers (n= 8), and ICT teachers (n= 5). The total number of received questionnaire papers was (n= 40) distributed as following: English teachers (n= 10),

science teachers (n= 10), math teachers (n= 8), applied technology teachers (n= 7), and ICT teachers (n= 5). A number of responses (n= 4) were excluded due to incomplete answers distributed as following: English teachers (n= 1), science teachers (n= 1), math teachers (n= 1), and applied technology teachers (n= 1). Eventually, the total number of received complete and accepted questionnaires was (n= 36) with a percentage of (85.7%) from the total number of teachers distributed as following: English teachers (n= 9), science teachers (n= 9), math teachers (n= 7), applied technology teachers (n= 6), and ICT teachers (n= 5).

The second questionnaire was conducted in March 2012 for all the teachers, except Arabic and Islamic studies teachers, in the school (n= 46) who were distributed as following: English teachers (n= 12), science teachers (n= 10), math teachers (n= 9), applied technology teachers (n= 10), and ICT teachers (n= 5). The total number of received complete and accepted questionnaires was (n= 36) with a percentage of (78.3%) from the total number of teachers distributed as following: English teachers (n= 9), science teachers (n= 9), math teachers (n= 7), applied technology teachers (n= 6), and ICT teachers (n= 5). None of the responses was excluded in this questionnaire.

3.4. Design of questionnaires

3.4.1. Students' questionnaire (Appendices I and II):

The first question of students' questionnaire was about their grade level. In the second question, the students were asked to estimate how often they used their laptops for educational purposes during the academic year by choosing one option only from four choices: every day, 3-4 days a week (more than half of the scholar week), 1-2 days a week (less than half of the scholar week), and never. Questions three and four requested from the students to decide in which subject they used their laptops the most and in which subject they used their laptops the least. The students were allowed to pick as much as they think the main educational activities in which they used their laptops in the classroom in question five with a possibility to specify

other activities if not mentioned in the available options: using text book, taking notes, using worksheets, solving problems, and doing exams.

From questions six to twelve, the students were requested to choose their degree of agreement from a scale of four points with statements describing the effect of using students' laptops on: students' concentration and attention to teachers, acquiring better understanding, achieving higher marks, improving students' behavior, saving time, being fun and enjoyable, and to what extent do they support using students' laptops in the teaching and learning process in their school. The scale was a modified simple Likert scale of four points: strongly agree, agree, don't agree, and strongly don't agree.

3.4.2. Teachers' questionnaire (Appendix III):

For teachers, the first question was about the subject they teach. In the second question, the teachers were asked to estimate how often their students used their laptops for educational purposes during the academic year by choosing one option only from four choices: every period, more than half of the periods, less than half of the periods, and never. The teachers were given the opportunity to choose as much as they think the main educational activities in which their students used their laptops in the classroom in question three with a possibility to specify other activities if not mentioned in the available options.

From questions four to ten, the teachers were requested to choose their degree of agreement from a scale of five points with statements describing the effect of using students' laptops on: students' concentration and attention to teachers, acquiring better understanding, achieving higher marks, improving students' behavior, saving time, being fun and enjoyable, and to what extent do they support using students' laptops in the teaching and learning process in their school. The scale was a simplified Likert scale of five points: strongly agree, agree, neutral, don't agree, and strongly don't agree.

3.5. Methods of data collection

In order to explore the students' and teachers' perspectives about using students' laptops in a career-based technical high school in the United Arab Emirates and to be able to study comparisons based on the expected findings, a students' questionnaire and a teachers' questionnaire were circulated in two consecutive academic years, after two academic years of adopting a One-To-One E-Learning project in the school under research in June 2011 and after three academic years of implementing the project in March 2012. The questionnaires were conducted in one branch of the high school out of five branches in the United Arab Emirates due to not granting a permission to do the study except in that branch.

The students' questionnaires were circulated in a classroom setting in both academic years for all the students from all grade levels, from grade nine to grade twelve, and the choice was given to the students to participate or not with a time interval of fifteen minutes to answer the twelve questions and to finish the questionnaire on the spot. The papers were collected by all the teachers having classes at that time and were handed to a supervisor in each building in the campus. The supervisors submitted all the responses they collected to the researcher who classified them into grade levels to better organize the study procedures.

The teachers' questionnaires were distributed from the researcher to the head teachers of all departments, except Arabic and Islamic studies, to be circulated within their respective teams and they were given one working day time frame to response to the ten questions in the questionnaire. The questionnaires were collected back by the head teachers and handed back to the researcher who classified them into departments for better organization.

3.6. Ethical considerations

An approval was requested from the high management of the school under study to circulate the students' and teachers' questionnaires on all the students and teachers in all the five branches of the high school in the United Arab Emirates initially in June 2010 before one year from starting this research. Because of the abstention to guarantee such an approval and due to waiting for an academic research policy in the school under study to be adopted, the current research has started one year later in June 2011 after granting an internal approval from the principal of the sole branch studied.

The students and teachers were communicated clearly that the participation in the study is completely optional and the objective of the study was clarified confirming that their opinions will not be used for any other purpose. No names or any personal information were asked from neither the students nor the teachers who participated in the questionnaires.

3.7. Methods of data analysis

The findings of all the four questionnaires in the two consecutive academic years were recorded and analyzed manually then were checked and further analyzed using the IBM SPSS statistics 20 software tool. All the findings were organized in four detailed tables (Tables 1, 2, 3, and 4), one table for each questionnaire conducted. Each table was analyzed and discussed separately then the students' tables were compared and the teachers' tables were compared as well to conclude any significant outcomes.

4. Findings

The focus of the current research is to explore the students' and teachers' perspectives about using the students' laptops in a career-based technical high school in the United Arab Emirates in two consecutive academic years. Conducting the same students' questionnaire and teachers' questionnaire in two consecutive academic years may create a solid base with rich data for a comparison study. The present study is to work on comparing both the students' and teachers' perspectives in the first academic year with their equivalent in the second academic year.

The original hypotheses suggested that most of the students, especially grade nine and grade ten students are expected to find the One-To-One E-Learning project useful and enjoyable with a significant support that can be increased in the following academic year. Teachers may consider it useful and efficient, especially the English and ICT teachers, but with a less support than students except for English and ICT teachers who may show more support than other teachers. The students' support to the project is expected to increase clearly in the second year while a slight increase in the teachers' support may be noticed.

The findings of the students' questionnaires in the two consecutive academic years are shown in tables 1 and 2 below in section 4.1 and the findings of the teachers' questionnaires in the two consecutive academic years are shown in tables 3 and 4 below in section 4.2. The analysis and study of all the findings will be in chapter 5.

4.1. Findings of the students' questionnaires

The findings of the first students' questionnaire – June 2011

| First students' questionnaire – June 2011 | | | | | | |
|--|--------------------|------------|-------------|-------------|-------------|-------|
| 1- Grade level | | Grade 9 | Grade 10 | Grade 11 | Grade 12 | Total |
| Number of students | | 167 | 160 | 143 | 137 | 607 |
| Percentage of each grade (%) from the total number of students | | 27.5 | 26.4 | 23.6 | 22.6 | 100 |
| Sample size | | 110 | 115 | 87 | 88 | 400 |
| Percentage of each sample size (%) from the total sample size | | 27.5 | 28.8 | 21.8 | 22 | 100 |
| Percentage of each sample size (%) from the total number of students in each grade level | | 65.9 | 71.9 | 60.8 | 64.2 | 65.9 |
| 2- Magnitude of laptop usage | Every day | 45 | 49 | 53 | 55 | 202 |
| | % | 40.9 | 42.6 | 60.9 | 62.5 | 50.5 |
| | 3-4 days a week | 55 | 51 | 24 | 25 | 155 |
| | % | 50 | 44.4 | 27.6 | 28.4 | 38.8 |
| | 1-2 days a week | 10 | 14 | 10 | 6 | 40 |
| | % | 9.1 | 12.2 | 11.5 | 6.8 | 10 |
| | Never | | 1 | | 2 | 3 |
| | % | 0 | 0.9 | 0 | 2.3 | 0.8 |
| 3- Subject of most laptop usage in the classroom | English | 81 | 95 | 75 | 72 | 323 |
| | % | 73.6 | 82.6 | 86.2 | 81.8 | 80.8 |
| | Science | 16 | 5 | 2 | 3 | 26 |
| | % | 14.6 | 4.4 | 2.3 | 3.4 | 6.5 |
| | Math | 1 | | 1 | 1 | 3 |
| | % | 0.9 | 0 | 1.2 | 1.1 | 0.8 |
| | ICT | 8 | 15 | 6 | 7 | 36 |
| | % | 7.3 | 13 | 6.9 | 8 | 9 |

| | | | | | | |
|---|------------------|------|------|------|------|------|
| | Cluster | 3 | | 3 | 5 | 11 |
| | % | 2.7 | 0 | 3.5 | 5.7 | 2.8 |
| | Arabic & Islamic | 1 | | | | 1 |
| | % | 0.9 | 0 | 0 | 0 | 0.3 |
| 4- Subject of least laptop usage in the classroom | English | 4 | | | 2 | 6 |
| | % | 3.6 | 0 | 0 | 2.3 | 1.5 |
| | Science | 4 | 15 | 16 | 8 | 43 |
| | % | 3.6 | 13 | 18.4 | 9.1 | 10.8 |
| | Math | 26 | 37 | 26 | 22 | 111 |
| | % | 23.6 | 32.2 | 29.9 | 25 | 27.8 |
| | ICT | 2 | 5 | 1 | | 8 |
| | % | 1.8 | 4.4 | 1.2 | 0 | 2 |
| | Cluster | 1 | 2 | 1 | 6 | 10 |
| | % | 0.9 | 1.7 | 1.2 | 6.8 | 2.5 |
| | Arabic & Islamic | 73 | 56 | 43 | 50 | 222 |
| | % | 66.4 | 48.7 | 49.4 | 56.8 | 55.5 |
| 5- Main activities of laptop usage in the classroom | Using text book | 15 | 15 | 29 | 48 | 107 |
| | % | 13.6 | 13 | 33.3 | 54.6 | 26.8 |
| | Taking notes | 22 | 35 | 29 | 23 | 109 |
| | % | 20 | 30.4 | 33.3 | 26.1 | 27.3 |
| | Using worksheets | 71 | 75 | 72 | 66 | 284 |
| | % | 64.6 | 65.2 | 82.8 | 75 | 71 |
| | Solving problems | 63 | 25 | 36 | 39 | 163 |
| | % | 57.3 | 21.7 | 41.4 | 44.3 | 40.8 |
| | Doing exams | 51 | 48 | 38 | 43 | 180 |
| | % | 46.4 | 41.7 | 43.7 | 48.9 | 45 |
| | Others | 34 | 32 | 17 | 14 | 97 |
| | | | | | | |
| 6- Using laptops in the classroom increased students' concentration | Strongly agree | 46 | 36 | 31 | 32 | 145 |
| | % | 41.8 | 31.3 | 35.6 | 36.4 | 36.3 |

| | | | | | | |
|---|----------------------|------|------|------|------|------|
| | Agree | 49 | 67 | 44 | 39 | 199 |
| | % | 44.6 | 58.3 | 50.6 | 44.3 | 49.8 |
| | Don't agree | 11 | 9 | 8 | 8 | 36 |
| | % | 10 | 7.8 | 9.2 | 9.1 | 9 |
| | Strongly don't agree | 4 | 3 | 4 | 9 | 20 |
| | % | 3.6 | 2.6 | 4.6 | 10.2 | 5 |
| 7- Using laptops for educational purposes guaranteed better understanding | Strongly agree | 63 | 55 | 37 | 29 | 184 |
| | % | 57.3 | 47.8 | 42.5 | 33 | 46 |
| | Agree | 40 | 56 | 40 | 42 | 178 |
| | % | 36.4 | 48.7 | 46 | 47.7 | 44.5 |
| | Don't agree | 6 | 4 | 8 | 13 | 31 |
| | % | 5.5 | 3.5 | 9.2 | 14.8 | 7.8 |
| | Strongly don't agree | 1 | | 2 | 4 | 7 |
| | % | 0.9 | 0 | 2.3 | 4.6 | 1.8 |
| 8- Using laptops for educational purposes helped to achieve higher marks | Strongly agree | 58 | 49 | 32 | 32 | 171 |
| | % | 52.7 | 42.6 | 36.8 | 36.4 | 42.8 |
| | Agree | 44 | 56 | 40 | 35 | 175 |
| | % | 40 | 48.7 | 46 | 39.8 | 43.8 |
| | Don't agree | 7 | 10 | 14 | 14 | 45 |
| | % | 6.4 | 8.7 | 16.1 | 15.9 | 11.3 |
| | Strongly don't agree | 1 | | 1 | 7 | 9 |
| | % | 0.9 | 0 | 1.2 | 8 | 2.3 |
| 9- Using laptops in the classroom improved students' behavior | Strongly agree | 31 | 20 | 18 | 20 | 89 |
| | % | 28.2 | 17.4 | 20.7 | 22.7 | 22.3 |
| | Agree | 48 | 60 | 38 | 23 | 169 |
| | % | 43.6 | 52.2 | 43.7 | 26.1 | 42.3 |
| | Don't agree | 24 | 32 | 23 | 29 | 108 |
| | % | 21.8 | 27.8 | 26.4 | 33 | 27 |

| | | | | | | |
|--|----------------------|------|------|------|------|------|
| | Strongly don't agree | 7 | 3 | 8 | 16 | 34 |
| | % | 6.4 | 2.6 | 9.2 | 18.2 | 8.5 |
| 10- Using laptops for educational purposes is time saving | Strongly agree | 50 | 52 | 36 | 29 | 167 |
| | % | 45.5 | 45.2 | 41.4 | 33 | 41.8 |
| | Agree | 41 | 47 | 32 | 32 | 152 |
| | % | 37.3 | 40.9 | 36.8 | 36.4 | 38 |
| | Don't agree | 16 | 15 | 16 | 19 | 66 |
| | % | 14.6 | 13 | 18.4 | 21.6 | 16.5 |
| | Strongly don't agree | 3 | 1 | 3 | 8 | 15 |
| | % | 2.7 | 0.9 | 3.5 | 9.1 | 3.8 |
| 11- Using laptops for educational purposes is fun and enjoyable | Strongly agree | 56 | 51 | 41 | 44 | 192 |
| | % | 50.9 | 44.4 | 47.1 | 50 | 48 |
| | Agree | 42 | 44 | 36 | 36 | 158 |
| | % | 38.2 | 38.3 | 41.4 | 40.9 | 39.5 |
| | Don't agree | 11 | 17 | 9 | 5 | 42 |
| | % | 10 | 14.8 | 10.3 | 5.7 | 10.5 |
| | Strongly don't agree | 1 | 3 | 1 | 3 | 8 |
| | % | 0.9 | 2.6 | 1.2 | 3.4 | 2 |
| 12- I support using laptops in the teaching and learning process in the school | Strongly agree | 89 | 93 | 58 | 53 | 293 |
| | % | 80.9 | 80.9 | 66.7 | 60.2 | 73.3 |
| | Agree | 17 | 21 | 23 | 21 | 82 |
| | % | 15.5 | 18.3 | 26.4 | 23.9 | 20.5 |
| | Don't agree | 2 | 1 | 4 | 7 | 14 |
| | % | 1.8 | 0.9 | 4.6 | 8 | 3.5 |
| | Strongly don't agree | 2 | | 2 | 7 | 11 |
| | % | 1.8 | 0 | 2.3 | 8 | 2.8 |

Table 1: The final findings of the first students' questionnaire – June 2011

The findings of the second students' questionnaire – March 2012

| Second students' questionnaire – March 2012 | | | | | | |
|--|--------------------|------------|-------------|-------------|-------------|-------|
| 1- Grade level | | Grade 9 | Grade 10 | Grade 11 | Grade 12 | Total |
| Number of students | | 153 | 146 | 131 | 126 | 556 |
| Percentage of each grade (%) from the total number of students | | 27.5 | 26.3 | 23.6 | 22.7 | 100 |
| Sample size | | 97 | 109 | 93 | 60 | 359 |
| Percentage of each sample size (%) from the total sample size | | 27 | 30.4 | 25.9 | 16.7 | 100 |
| Percentage of each sample size (%) from the total number of students in each grade level | | 63.4 | 74.7 | 71 | 47.6 | 64.6 |
| 2- Magnitude of laptop usage | Every day | 39 | 72 | 38 | 27 | 176 |
| | % | 40.2 | 66.1 | 40.9 | 45 | 49 |
| | 3-4 days a week | 52 | 31 | 40 | 19 | 142 |
| | % | 53.6 | 28.4 | 43 | 31.7 | 39.6 |
| | 1-2 days a week | 6 | 6 | 14 | 13 | 39 |
| | % | 6.2 | 5.5 | 15.1 | 21.7 | 10.9 |
| | Never | | | 1 | 1 | 2 |
| | % | 0 | 0 | 1.1 | 1.7 | 0.6 |
| 3- Subject of most laptop usage in the classroom | English | 78 | 105 | 76 | 28 | 287 |
| | % | 80.4 | 96.3 | 81.7 | 46.7 | 79.9 |
| | Science | 14 | | 1 | 14 | 29 |
| | % | 14.4 | 0 | 1.1 | 23.3 | 8.1 |
| | Math | 1 | 1 | | 4 | 6 |
| | % | 1 | 0.9 | 0 | 6.7 | 1.7 |
| | ICT | 4 | 1 | 9 | 8 | 22 |
| | % | 4.1 | 0.9 | 9.7 | 13.3 | 6.1 |
| | Cluster | | 1 | 5 | 6 | 12 |
| | % | 0 | 0.9 | 5.4 | 10 | 3.3 |

| | | | | | | |
|---|------------------|------|------|------|------|------|
| | Arabic & Islamic | | 1 | 2 | | 3 |
| | % | 0 | 0.9 | 2.2 | 0 | 0.8 |
| 4- Subject of least laptop usage in the classroom | English | 1 | | | 3 | 4 |
| | % | 1 | 0 | 0 | 5 | 1.1 |
| | Science | 5 | 14 | 4 | 3 | 26 |
| | % | 5.2 | 12.8 | 4.3 | 5 | 7.2 |
| | Math | 43 | 39 | 52 | 19 | 153 |
| | % | 44.3 | 35.8 | 55.9 | 31.7 | 42.6 |
| | ICT | 2 | 6 | | 4 | 12 |
| | % | 2.1 | 5.5 | 0 | 6.7 | 3.3 |
| | Cluster | 3 | 2 | 3 | 3 | 11 |
| | % | 3.1 | 1.8 | 3.2 | 5 | 3.1 |
| | Arabic & Islamic | 43 | 48 | 34 | 28 | 153 |
| | % | 44.3 | 44 | 36.6 | 46.7 | 42.6 |
| 5- Main activities of laptop usage in the classroom | Using text book | 36 | 55 | 18 | 34 | 143 |
| | % | 37.1 | 50.5 | 19.4 | 56.7 | 39.8 |
| | Taking notes | 21 | 43 | 27 | 16 | 107 |
| | % | 21.7 | 39.5 | 29 | 26.7 | 29.8 |
| | Using worksheets | 67 | 90 | 75 | 45 | 277 |
| | % | 69.1 | 82.6 | 80.7 | 75 | 77.2 |
| | Solving problems | 51 | 52 | 35 | 30 | 168 |
| | % | 52.6 | 47.7 | 37.6 | 50 | 46.8 |
| | Doing exams | 34 | 51 | 42 | 27 | 154 |
| | % | 35.1 | 46.8 | 45.2 | 45 | 42.9 |
| | Others | 13 | 22 | 12 | 7 | 54 |
| 6- Using laptops in the classroom increased students' concentration | Strongly agree | 46 | 52 | 33 | 21 | 152 |
| | % | 47.4 | 47.7 | 35.5 | 35 | 42.3 |
| | Agree | 43 | 50 | 48 | 27 | 168 |
| | % | 44.3 | 45.9 | 51.6 | 45 | 46.8 |

| | | | | | | |
|---|----------------------|------|------|------|------|------|
| | Don't agree | 6 | 5 | 11 | 12 | 34 |
| | % | 6.2 | 4.6 | 11.8 | 20 | 9.5 |
| | Strongly don't agree | 2 | 2 | 1 | | 5 |
| | % | 2.1 | 1.8 | 1.1 | 0 | 1.4 |
| 7- Using laptops for educational purposes guaranteed better understanding | Strongly agree | 51 | 70 | 39 | 26 | 186 |
| | % | 52.6 | 64.2 | 41.9 | 43.3 | 51.8 |
| | Agree | 42 | 34 | 49 | 26 | 151 |
| | % | 43.3 | 31.2 | 52.7 | 43.3 | 42.1 |
| | Don't agree | 3 | 2 | 5 | 7 | 17 |
| | % | 3.1 | 1.8 | 5.4 | 11.7 | 4.7 |
| | Strongly don't agree | 1 | 3 | | 1 | 5 |
| | % | 1 | 2.8 | 0 | 1.7 | 1.4 |
| 8- Using laptops for educational purposes helped to achieve higher marks | Strongly agree | 39 | 48 | 40 | 28 | 155 |
| | % | 40.2 | 44 | 43 | 46.7 | 43.2 |
| | Agree | 52 | 54 | 51 | 26 | 183 |
| | % | 53.6 | 49.5 | 54.8 | 43.3 | 51 |
| | Don't agree | 4 | 5 | 2 | 6 | 17 |
| | % | 4.1 | 4.6 | 2.2 | 10 | 4.7 |
| | Strongly don't agree | 2 | 2 | | | 4 |
| | % | 2.1 | 1.8 | 0 | 0 | 1.1 |
| 9- Using laptops in the classroom improved students' behavior | Strongly agree | 27 | 27 | 27 | 20 | 101 |
| | % | 27.8 | 24.8 | 29 | 33.3 | 28.1 |
| | Agree | 45 | 59 | 36 | 22 | 162 |
| | % | 46.4 | 54.1 | 38.7 | 36.7 | 45.1 |
| | Don't agree | 20 | 20 | 27 | 15 | 82 |
| | % | 20.6 | 18.4 | 29 | 25 | 22.8 |
| | Strongly don't agree | 5 | 3 | 3 | 3 | 14 |
| | % | 5.2 | 2.8 | 3.2 | 5 | 3.9 |

| | | | | | | |
|--|----------------------|------|------|------|------|------|
| 10- Using laptops for educational purposes is time saving | Strongly agree | 50 | 46 | 46 | 29 | 171 |
| | % | 51.6 | 42.2 | 49.5 | 48.3 | 47.6 |
| | Agree | 39 | 48 | 39 | 24 | 150 |
| | % | 40.2 | 44 | 41.9 | 40 | 41.8 |
| | Don't agree | 8 | 7 | 6 | 7 | 28 |
| | % | 8.3 | 6.4 | 6.5 | 11.7 | 7.8 |
| | Strongly don't agree | | 8 | 2 | | 10 |
| | % | 0 | 7.3 | 2.2 | 0 | 2.8 |
| 11- Using laptops for educational purposes is fun and enjoyable | Strongly agree | 50 | 55 | 59 | 34 | 198 |
| | % | 51.6 | 50.5 | 63.4 | 56.7 | 55.2 |
| | Agree | 34 | 47 | 24 | 19 | 124 |
| | % | 35.1 | 43.1 | 25.8 | 31.7 | 34.5 |
| | Don't agree | 4 | 3 | 6 | 6 | 19 |
| | % | 4.1 | 2.8 | 6.5 | 10 | 5.3 |
| | Strongly don't agree | 9 | 4 | 4 | 1 | 18 |
| | % | 9.3 | 3.7 | 4.3 | 1.7 | 5 |
| 12- I support using laptops in the teaching and learning process in the school | Strongly agree | 77 | 83 | 71 | 36 | 267 |
| | % | 79.4 | 76.2 | 76.3 | 60 | 74.4 |
| | Agree | 19 | 22 | 21 | 15 | 77 |
| | % | 19.6 | 20.2 | 22.6 | 25 | 21.5 |
| | Don't agree | 1 | 1 | | 7 | 9 |
| | % | 1 | 0.9 | 0 | 11.7 | 2.5 |
| | Strongly don't agree | | 3 | 1 | 2 | 6 |
| | % | 0 | 2.8 | 1.1 | 3.3 | 1.7 |

Table 2: The final findings of the second students' questionnaire – March 2012

4.2. Findings of the teachers' questionnaires

The findings of the first teachers' questionnaire – June 2011

| First teachers' questionnaire – June 2011 | | | | | | | |
|---|-------------------------------|---------|---------|------|--------------------|------|-------|
| 1- Subject | | English | Science | Math | Applied Technology | ICT | Total |
| Number of teachers | | 11 | 10 | 8 | 8 | 5 | 42 |
| Percentage of each department (%) from the total number of teachers | | 26.2 | 23.8 | 19 | 19 | 11.9 | 100 |
| Sample size | | 9 | 9 | 7 | 6 | 5 | 36 |
| Percentage of each sample size (%) from the total sample size | | 25 | 25 | 19.4 | 16.7 | 13.9 | 100 |
| Percentage of each sample size (%) from the total number of teachers in each department | | 81.8 | 90 | 87.5 | 75 | 100 | 85.7 |
| 2- Magnitude of students' laptops usage in the classroom | Every period | 1 | 1 | | | 2 | 4 |
| | % | 11.1 | 11.1 | 0 | 0 | 40 | 11.1 |
| | More than half of the periods | 6 | 2 | | 4 | 3 | 15 |
| | % | 66.7 | 22.2 | 0 | 66.7 | 60 | 41.7 |
| | Less than half of the periods | 2 | 6 | 7 | 2 | | 17 |
| | % | 22.2 | 66.7 | 100 | 33.3 | 0 | 47.2 |
| | Never | | | | | | |
| | % | 0 | 0 | 0 | 0 | 0 | 0 |
| 3- Main activities of laptop usage by | Using text book | 1 | 4 | 3 | 1 | 1 | 10 |

| | | | | | | | |
|---|----------------------|------|------|------|------|-----|------|
| students in the classroom | % | 11.1 | 44.4 | 42.9 | 16.7 | 20 | 27.8 |
| | Taking notes | 3 | 3 | 1 | 3 | 2 | 12 |
| | % | 33.3 | 33.3 | 14.3 | 50 | 40 | 33.3 |
| | Using worksheets | 4 | 9 | 5 | 5 | 4 | 27 |
| | % | 44.4 | 100 | 71.4 | 83.3 | 80 | 75 |
| | Solving problems | 7 | 5 | 5 | 4 | 5 | 26 |
| | % | 77.8 | 55.6 | 71.4 | 66.7 | 100 | 72.2 |
| | Doing exams | 3 | 6 | 3 | 1 | 5 | 18 |
| | % | 33.3 | 66.7 | 42.9 | 16.7 | 100 | 50 |
| | Others | 7 | 3 | 3 | 2 | 2 | 17 |
| 4- Using students' laptops in the classroom increased students' concentration | Strongly agree | 3 | 2 | | 2 | 2 | 9 |
| | % | 33.3 | 22.2 | 0 | 33.3 | 40 | 25 |
| | Agree | 4 | 4 | 5 | 3 | 3 | 19 |
| | % | 44.4 | 44.4 | 71.4 | 50 | 60 | 52.8 |
| | Neutral | | 3 | 1 | | | 4 |
| | % | 0 | 33.3 | 14.3 | 0 | 0 | 11.1 |
| | Don't agree | | | 1 | 1 | | 2 |
| | % | 0 | 0 | 14.3 | 16.7 | 0 | 5.6 |
| | Strongly don't agree | 2 | | | | | 2 |
| | % | 22.2 | 0 | 0 | 0 | 0 | 5.6 |
| 5- Using students' laptops for educational purposes guaranteed better understanding | Strongly agree | 2 | 2 | 1 | 4 | 3 | 12 |
| | % | 22.2 | 22.2 | 14.3 | 66.7 | 60 | 33.3 |
| | Agree | 4 | 4 | 4 | 1 | 1 | 14 |
| | % | 44.4 | 44.4 | 57.1 | 16.7 | 20 | 38.9 |
| | Neutral | 2 | 3 | | 1 | 1 | 7 |
| | % | 22.2 | 33.3 | 0 | 16.7 | 20 | 19.4 |
| | Don't agree | 1 | | 2 | | | 3 |
| | % | 11.1 | 0 | 28.6 | 0 | 0 | 8.3 |
| | Strongly don't agree | | | | | | |

| | | | | | | | |
|---|----------------------|------|------|------|------|----|------|
| | % | 0 | 0 | 0 | 0 | 0 | 0 |
| 6- Using students' laptops for educational purposes helped them to achieve higher marks | Strongly agree | | | | 3 | 1 | 4 |
| | % | 0 | 0 | 0 | 50 | 20 | 11.1 |
| | Agree | 4 | 3 | 3 | 1 | 2 | 13 |
| | % | 44.4 | 33.3 | 42.9 | 16.7 | 40 | 36.1 |
| | Neutral | 4 | 3 | 1 | 1 | 2 | 11 |
| | % | 44.4 | 33.3 | 14.3 | 16.7 | 40 | 30.6 |
| | Don't agree | 1 | 3 | 3 | 1 | | 8 |
| | % | 11.1 | 33.3 | 42.9 | 16.7 | 0 | 22.2 |
| | Strongly don't agree | | | | | | |
| | % | 0 | 0 | 0 | 0 | 0 | 0 |
| 7- Using students' laptops in the classroom improved students' behavior | Strongly agree | 1 | 1 | | 2 | | 4 |
| | % | 11.1 | 11.1 | 0 | 33.3 | 0 | 11.1 |
| | Agree | 4 | 2 | 4 | 1 | 3 | 14 |
| | % | 44.4 | 22.2 | 57.1 | 16.7 | 60 | 38.9 |
| | Neutral | 2 | 4 | 1 | 2 | 1 | 10 |
| | % | 22.2 | 44.4 | 14.3 | 33.3 | 20 | 27.8 |
| | Don't agree | | 1 | 2 | 1 | 1 | 5 |
| | % | 0 | 11.1 | 28.6 | 16.7 | 20 | 13.9 |
| | Strongly don't agree | 2 | 1 | | | | 3 |
| | % | 22.2 | 11.1 | 0 | 0 | 0 | 8.3 |
| 8- Using students' laptops for educational purposes is time saving | Strongly agree | 1 | 2 | 1 | 4 | 2 | 10 |
| | % | 11.1 | 22.2 | 14.3 | 66.7 | 40 | 27.8 |
| | Agree | 3 | 4 | 3 | 1 | 3 | 14 |
| | % | 33.3 | 44.4 | 42.9 | 16.7 | 60 | 38.9 |
| | Neutral | 1 | 1 | 1 | | | 3 |
| | % | 11.1 | 11.1 | 14.3 | 0 | 0 | 8.3 |
| | Don't agree | 3 | 1 | 2 | 1 | | 7 |
| | % | 33.3 | 11.1 | 28.6 | 16.7 | 0 | 19.4 |

| | | | | | | | |
|--|----------------------|------|------|------|------|----|------|
| | Strongly don't agree | 1 | 1 | | | | 2 |
| | % | 11.1 | 11.1 | 0 | 0 | 0 | 5.6 |
| 9- Using students' laptops for educational purposes is fun and enjoyable | Strongly agree | 3 | 2 | 1 | 2 | 3 | 11 |
| | % | 33.3 | 22.2 | 14.3 | 33.3 | 60 | 30.6 |
| | Agree | 3 | 6 | 6 | 4 | 1 | 20 |
| | % | 33.3 | 66.7 | 85.7 | 66.7 | 20 | 55.6 |
| | Neutral | 1 | 1 | | | 1 | 3 |
| | % | 11.1 | 11.1 | 0 | 0 | 20 | 8.3 |
| | Don't agree | 1 | | | | | 1 |
| | % | 11.1 | 0 | 0 | 0 | 0 | 2.8 |
| | Strongly don't agree | 1 | | | | | 1 |
| | % | 11.1 | 0 | 0 | 0 | 0 | 2.8 |
| 10- I support using students' laptops in the teaching and learning process in the school | Strongly agree | 6 | 6 | 1 | 5 | 4 | 22 |
| | % | 66.7 | 66.7 | 14.3 | 83.3 | 80 | 61.1 |
| | Agree | 2 | 2 | 2 | 1 | 1 | 8 |
| | % | 22.2 | 22.2 | 28.6 | 16.7 | 20 | 22.2 |
| | Neutral | 1 | | 3 | | | 4 |
| | % | 11.1 | 0 | 42.9 | 0 | 0 | 11.1 |
| | Don't agree | | 1 | 1 | | | 2 |
| | % | 0 | 11.1 | 14.3 | 0 | 0 | 5.6 |
| | Strongly don't agree | | | | | | |
| | % | 0 | 0 | 0 | 0 | 0 | 0 |

Table 3: The final findings of the first teachers' questionnaire – June 2011

The findings of the second teachers' questionnaire – March 2012

| Second teachers' questionnaire – March 2012 | | | | | | | |
|---|-------------------------------|---------|---------|------|--------------------|------|-------|
| 1- Subject | | English | Science | Math | Applied Technology | ICT | Total |
| Number of teachers | | 12 | 10 | 9 | 10 | 5 | 46 |
| Percentage of each department (%) from the total number of teachers | | 26.1 | 21.7 | 19.6 | 21.7 | 10.9 | 100 |
| Sample size | | 9 | 9 | 7 | 6 | 5 | 36 |
| Percentage of each sample size (%) from the total sample size | | 25 | 25 | 19.4 | 16.7 | 13.9 | 100 |
| Percentage of each sample size (%) from the total number of teachers in each department | | 75 | 90 | 77.8 | 60 | 100 | 78.3 |
| 2- Magnitude of students' laptops usage in the classroom | Every period | 2 | | | | 4 | 6 |
| | % | 22.2 | 0 | 0 | 0 | 80 | 16.7 |
| | More than half of the periods | 5 | 4 | 1 | 3 | 1 | 14 |
| | % | 55.6 | 44.4 | 14.3 | 50 | 20 | 38.9 |
| | Less than half of the periods | 2 | 5 | 6 | 3 | | 16 |
| | % | 22.2 | 55.6 | 85.7 | 50 | 0 | 44.4 |
| | Never | | | | | | |
| | % | 0 | 0 | 0 | 0 | 0 | 0 |
| 3- Main activities of laptop usage by students in the classroom | Using text book | 1 | 5 | 1 | 3 | 3 | 13 |
| | % | 11.1 | 55.6 | 14.3 | 50 | 60 | 36.1 |
| | Taking notes | | 2 | 2 | 2 | 1 | 7 |

| | | | | | | | |
|---|----------------------|------|------|------|------|-----|------|
| | % | 0 | 22.2 | 28.6 | 33.3 | 20 | 19.4 |
| | Using worksheets | 6 | 8 | 7 | 6 | 5 | 32 |
| | % | 66.7 | 88.9 | 100 | 100 | 100 | 88.9 |
| | Solving problems | 3 | 5 | 6 | 4 | 5 | 23 |
| | % | 33.3 | 55.6 | 85.7 | 66.7 | 100 | 63.9 |
| | Doing exams | 2 | 4 | 4 | 2 | 5 | 17 |
| | % | 22.2 | 44.4 | 57.1 | 33.3 | 100 | 47.2 |
| | Others | 6 | 2 | 2 | 1 | 1 | 12 |
| 4- Using students' laptops in the classroom increased students' concentration | Strongly agree | 1 | | | 1 | 1 | 3 |
| | % | 11.1 | 0 | 0 | 16.7 | 20 | 8.3 |
| | Agree | 4 | 4 | 1 | 2 | 2 | 13 |
| | % | 44.4 | 44.4 | 14.3 | 33.3 | 40 | 36.1 |
| | Neutral | 4 | 3 | 4 | 2 | 1 | 14 |
| | % | 44.4 | 33.3 | 57.1 | 33.3 | 20 | 38.9 |
| | Don't agree | | 1 | 2 | 1 | 1 | 5 |
| | % | 0 | 11.1 | 28.6 | 16.7 | 20 | 13.9 |
| | Strongly don't agree | | 1 | | | | 1 |
| | % | 0 | 11.1 | 0 | 0 | 0 | 2.8 |
| 5- Using students' laptops for educational purposes guaranteed better understanding | Strongly agree | 1 | 2 | | 1 | 1 | 5 |
| | % | 11.1 | 22.2 | 0 | 16.7 | 20 | 13.9 |
| | Agree | 4 | 3 | 1 | 2 | 3 | 13 |
| | % | 44.4 | 33.3 | 14.3 | 33.3 | 60 | 36.1 |
| | Neutral | 4 | 1 | 5 | 1 | 1 | 12 |
| | % | 44.4 | 11.1 | 71.4 | 16.7 | 20 | 33.3 |
| | Don't agree | | 2 | 1 | 2 | | 5 |
| | % | 0 | 22.2 | 14.3 | 33.3 | 0 | 13.9 |
| | Strongly don't agree | | 1 | | | | 1 |
| | % | 0 | 11.1 | 0 | 0 | 0 | 2.8 |
| 6- Using students' | Strongly | 1 | 2 | | 1 | 1 | 5 |

| | | | | | | | |
|---|----------------------|------|------|------|------|----|------|
| laptops for educational purposes helped them to achieve higher marks | agree | | | | | | |
| | % | 11.1 | 22.2 | 0 | 16.7 | 20 | 13.9 |
| | Agree | 4 | 2 | 1 | 1 | 3 | 11 |
| | % | 44.4 | 22.2 | 14.3 | 16.7 | 60 | 30.6 |
| | Neutral | 2 | 2 | 5 | 1 | 1 | 11 |
| | % | 22.2 | 22.2 | 71.4 | 16.7 | 20 | 30.6 |
| | Don't agree | 2 | 3 | 1 | 3 | | 9 |
| | % | 22.2 | 33.3 | 14.3 | 50 | 0 | 25 |
| | Strongly don't agree | | | | | | |
| | % | 0 | 0 | 0 | 0 | 0 | 0 |
| 7- Using students' laptops in the classroom improved students' behavior | Strongly agree | 1 | | | | | 1 |
| | % | 11.1 | 0 | 0 | 0 | 0 | 2.8 |
| | Agree | 3 | 2 | 2 | 3 | 2 | 12 |
| | % | 33.3 | 22.2 | 28.6 | 50 | 40 | 33.3 |
| | Neutral | 1 | 4 | 3 | 2 | 2 | 12 |
| | % | 11.1 | 44.4 | 42.9 | 33.3 | 40 | 33.3 |
| | Don't agree | 3 | 1 | 2 | 1 | 1 | 8 |
| | % | 33.3 | 11.1 | 28.6 | 16.7 | 20 | 22.2 |
| | Strongly don't agree | 1 | 2 | | | | 3 |
| | % | 11.1 | 22.2 | 0 | 0 | 0 | 8.3 |
| 8- Using students' laptops for educational purposes is time saving | Strongly agree | 1 | 2 | | | 2 | 5 |
| | % | 11.1 | 22.2 | 0 | 0 | 40 | 13.9 |
| | Agree | 4 | 2 | 3 | 3 | 2 | 14 |
| | % | 44.4 | 22.2 | 42.9 | 50 | 40 | 38.9 |
| | Neutral | 1 | 3 | 1 | | 1 | 6 |
| | % | 11.1 | 33.3 | 14.3 | 0 | 20 | 16.7 |
| | Don't agree | 2 | 2 | 3 | 2 | | 9 |
| | % | 22.2 | 22.2 | 42.9 | 33.3 | 0 | 25 |
| | Strongly don't agree | 1 | | | 1 | | 2 |
| | % | 11.1 | 0 | 0 | 16.7 | 0 | 5.6 |

| | | | | | | | |
|--|----------------------|------|------|------|------|----|------|
| 9- Using students' laptops for educational purposes is fun and enjoyable | Strongly agree | 2 | 1 | 2 | 1 | 2 | 8 |
| | % | 22.2 | 11.1 | 28.6 | 16.7 | 40 | 22.2 |
| | Agree | 4 | 7 | 5 | 4 | 2 | 22 |
| | % | 44.4 | 77.8 | 71.4 | 66.7 | 40 | 61.1 |
| | Neutral | 3 | 1 | | 1 | 1 | 6 |
| | % | 33.3 | 11.1 | 0 | 16.7 | 20 | 16.7 |
| | Don't agree | | | | | | |
| | % | 0 | 0 | 0 | 0 | 0 | 0 |
| | Strongly don't agree | | | | | | |
| | % | 0 | 0 | 0 | 0 | 0 | 0 |
| 10- I support using students' laptops in the teaching and learning process in the school | Strongly agree | 2 | 4 | 1 | 1 | 3 | 11 |
| | % | 22.2 | 44.4 | 14.3 | 16.7 | 60 | 30.6 |
| | Agree | 4 | 4 | 3 | 3 | 2 | 16 |
| | % | 44.4 | 44.4 | 42.9 | 50 | 40 | 44.4 |
| | Neutral | 2 | | 3 | 2 | | 7 |
| | % | 22.2 | 0 | 42.9 | 33.3 | 0 | 19.4 |
| | Don't agree | 1 | | | | | 1 |
| | % | 11.1 | 0 | 0 | 0 | 0 | 2.8 |
| | Strongly don't agree | | 1 | | | | 1 |
| | % | 0 | 11.1 | 0 | 0 | 0 | 2.8 |

Table 4: The final findings of the second teachers' questionnaire – March 2012

5. Analysis and Discussion

5.1. Analysis and discussion of the two students' questionnaires

5.1.1. Population and sample size:

In the first students' questionnaire, conducted in June 2011, and as shown in table 1, the total population of all students was (607) with a sample size of (400) students forming 65.9% of the total population. Grade nine students were consisting 27.5% (n= 167) of the total population, 27.5% (n= 110) of the sample size, and their sample size was consisting 65.9% of the total grade nine population. Grade ten students were consisting 26.4% (n= 160) of the total population, 28.8% (n= 115) of the sample size, and their sample size was consisting 71.9% of the total grade ten population. Grade eleven students were consisting 23.6% (n= 143) of the total population, 21.8% (n= 87) of the sample size, and their sample size was consisting 60.8% of the total grade eleven population. Grade twelve students were consisting 22.6% (n= 137) of the total population, 22% (n= 88) of the sample size, and their sample size was consisting 64.2% of the total grade twelve population.

| Grade level | Grade 9 | Grade 10 | Grade 11 | Grade 12 | Total |
|---|------------|-------------|-------------|-------------|-------|
| Number of students | 167 | 160 | 143 | 137 | 607 |
| Percentage of each grade (%) from the total number of students | 27.5 | 26.4 | 23.6 | 22.6 | 100 |
| Sample size | 110 | 115 | 87 | 88 | 400 |
| Percentage of each sample size (%) from the total sample size | 27.5 | 28.8 | 21.8 | 22 | 100 |
| Percentage of each sample size (%) from the total number of students in each grade level | 65.9 | 71.9 | 60.8 | 64.2 | 65.9 |

Table 5: Population and sample size of the first students' questionnaire – June 2011

In the second students' questionnaire, conducted in March 2012, and as shown in table 2, the total population was (556) students with a sample size of (359) students forming 64.6% of the total population. Grade nine students were consisting 27.5% (n= 153) of the total population, 27% (n= 97) of the sample size, and their sample size was consisting 63.4% of the total grade nine population. Grade ten students were consisting 26.3% (n= 146) of the total population, 30.4% (n= 109) of the sample size, and their sample size was consisting 74.7% of the total grade ten population. Grade eleven students were consisting 23.6% (n= 131) of the total population, 25.9% (n= 93) of the sample size, and their sample size was consisting 71% of the total grade eleven population. Grade twelve students were consisting 22.7% (n= 126) of the total population, 16.7% (n= 60) of the sample size, and their sample size was consisting 47.6% of the total grade twelve population.

| Grade level | Grade 9 | Grade 10 | Grade 11 | Grade 12 | Total |
|--|------------|-------------|-------------|-------------|-------|
| Number of students | 153 | 146 | 131 | 126 | 556 |
| Percentage of each grade (%) from the total number of students | 27.5 | 26.3 | 23.6 | 22.7 | 100 |
| Sample size | 97 | 109 | 93 | 60 | 359 |
| Percentage of each sample size (%) from the total sample size | 27 | 30.4 | 25.9 | 16.7 | 100 |
| Percentage of each sample size (%) from the total number of students in each grade level | 63.4 | 74.7 | 71 | 47.6 | 64.6 |

Table 6: Population and sample size of the second students' questionnaire – March 2012

5.1.2. Magnitude of laptop usage:

89.3% (n= 357) of the total sample size in the first questionnaire estimated their laptop usage in the classroom to be during most of the week days, including 50.5% (n= 202) of the total used it every day, while 10.8% (n= 43) thought it was less than 3 days a week, from which 0.8% (n= 3) of the total didn't use it at all. In the second questionnaire, the percentage of those who used their laptops in the classroom in 3 days or more weekly dropped slightly to 88.6% (n= 318), including 49% (n= 176) of the total used it every day, and the percentage of those who used them in less than 3 days a week was slightly increased to 11.5% (n= 41), from which 0.6% (n= 2) of the total didn't use it at all.

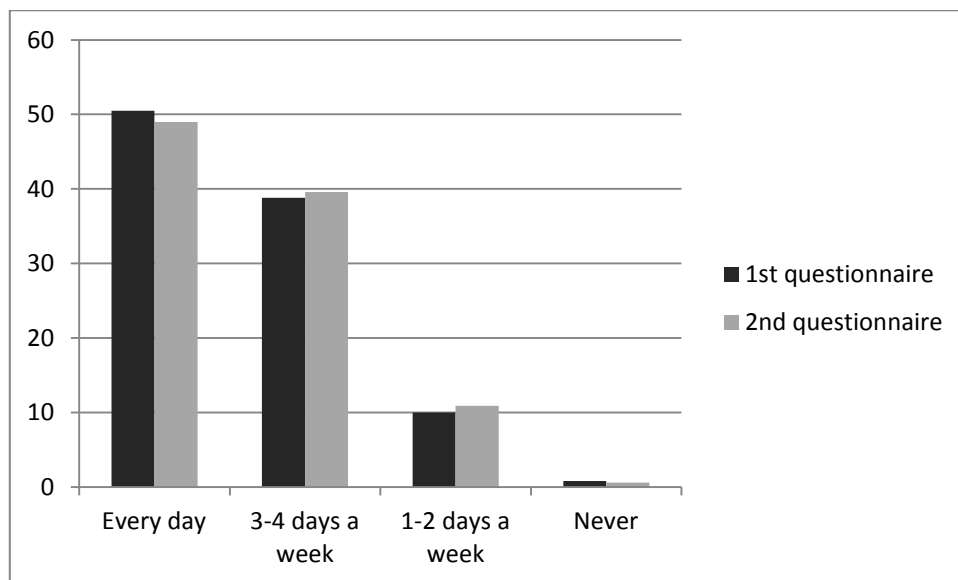


Figure 1: Comparing the magnitude of laptop usage in the two students' questionnaires

Summary: No significant difference between the two questionnaires as around 89% of the students estimated their usage by more than half of the week days and around 11% believed they used their laptops in less than half of the week days.

5.1.3. Subject of most laptop usage:

80.8% (n= 323) of the students in the first questionnaire responded that English was the subject in which they used their laptops the most in the classroom, 9% (n= 36) in ICT, 6.5% (n= 26) in science, 2.8% (n= 11) in the cluster subjects, 0.8% (n= 3) in math, and 0.3% (n= 1) in Arabic and Islamic studies. In the second questionnaire, English was again the subject in which most of the students, 79.9% (n= 287), used their laptops in the classroom, followed by 8.1% (n= 29) in science, 6.1% (n= 22) in ICT, 3.3% (n= 12) in the cluster subjects, 1.7% (n= 6) in math, and 0.8% (n= 3) in Arabic and Islamic studies.

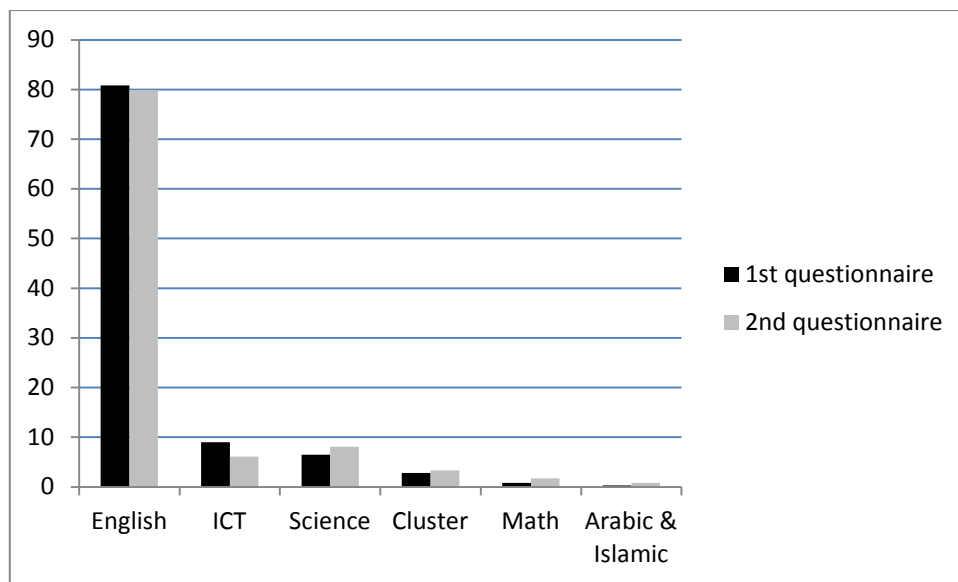


Figure 2: Comparing the subject of most laptop usage in the two students' questionnaires

In other researches, how often students use their laptops in class varies from 70% estimated by English language arts teachers to 23% of class time estimated by math teachers (Grimes & Warschauer 2008). The greatest use of laptops was reported in English and humanities, history, mathematics and science (Zucker & Hug 2007).

Summary: It is very clear that English was the subject in which the students used their laptops most of the time with a large gap than other subjects and no significant differences between the two questionnaires.

5.1.4. Subject of least laptop usage:

55.5% (n= 222) of the students in the first questionnaire considered Arabic and Islamic studies was the least subject in which they used their laptops in the classroom, 27.8% (n= 111) in math, 10.8% (n= 43) in science, 2.5% (n= 10) in the cluster subjects, 2% (n= 8) in ICT, and 1.5% (n= 6) in English. In the second questionnaire, the Arabic and Islamic studies was considered once again the least subject in which the students used their laptops in the classroom by 42.6% (n= 153) of the students in parallel with math by 42.6% (n= 153) of the students followed by science with 7.2% (n= 26), ICT by 3.3% (n= 12), the cluster subjects by 3.1% (n= 11), and English by 1.1% (n= 4).

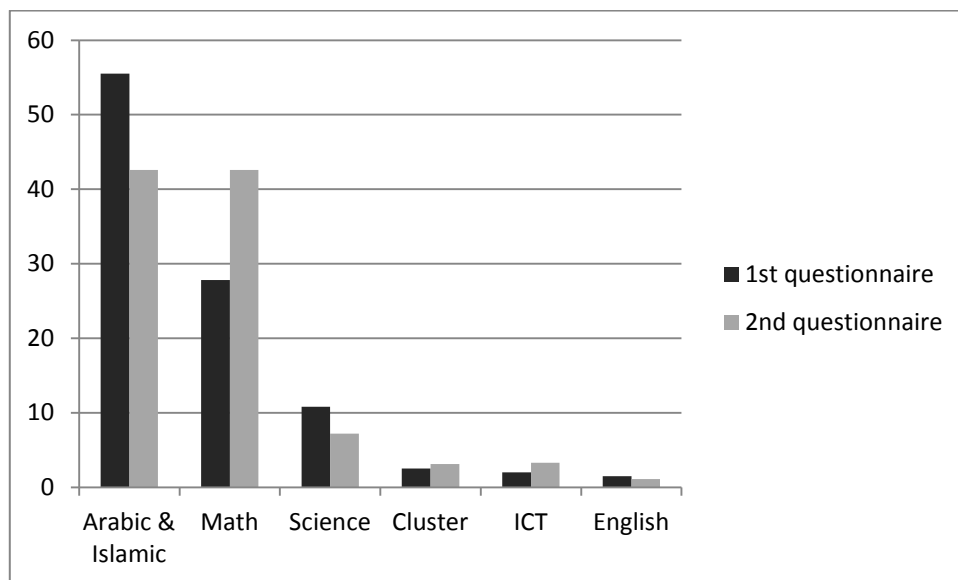


Figure 3: Comparing the subject of least laptop usage in the two students' questionnaires

Summary: Arabic and Islamic studies subject was obviously the least in which the students used their laptops. The large jump for math in the second questionnaire is worthwhile studying.

5.1.5. Main activities of laptop usage:

In this part, many responses were allowed and the students were able to specify any more things than the five options given. The main activity in which the students used their laptops in the classroom according to the responses in the first questionnaire was using worksheets with a 71% (n= 284) of the responses. The second activity was doing exams with 45% (n= 180) of the responses then solving problems with a 40.8% (n= 163) and taking notes 27.3% (n= 109) and using text book 26.8% (n= 107). 97 students specified three more activities than the listed five and they were: working on their projects (41 responses), doing the homework or checking it (30 responses), and playing games (26 responses). In the second questionnaire, the main activity in the classroom was using worksheets with a 77.2% (n= 277) of the responses followed by solving problems with a 46.8% (n= 168), doing exams with 42.9% (n= 154), using text book 39.8% (n= 143), and taking notes 29.8% (n= 107). 54 students specified three more activities than the listed five and they were: working on their projects (23 responses), doing the homework or checking it (19 responses), and playing games (12 responses).

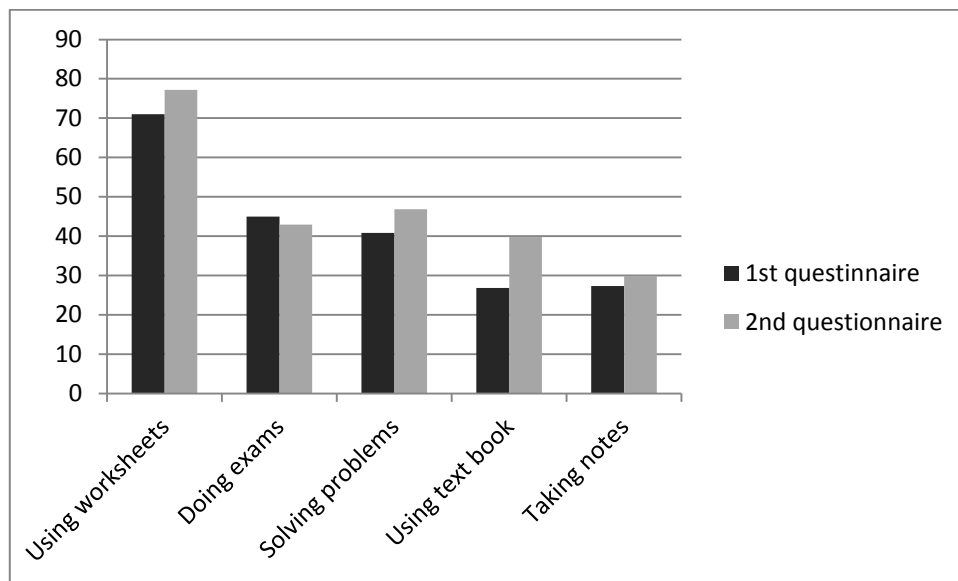


Figure 4: Comparing the main activities of laptop usage in the two students' questionnaires

Summary: No significant changes in the second questionnaire except the increase in using text books.

In the following seven sections, the students were given a modified simple Likert scale of four options (strongly agree, agree, don't agree, and strongly don't agree) and they were requested to choose one option only.

5.1.6. Students' concentration:

In a response for a statement that using the students' laptops in the classroom has increased the students' concentration, 36.3% (n= 145) of the students in the first questionnaire strongly agreed, 49.8% (n= 199) agreed, 9% (n= 36) didn't agree, and 5% (n= 20) strongly didn't agree. In the second questionnaire, 42.3% (n= 152) of the students strongly agreed, 46.8% (n= 168) agreed, 9.5% (n= 34) didn't agree, and 1.4% (n= 5) strongly didn't agree.

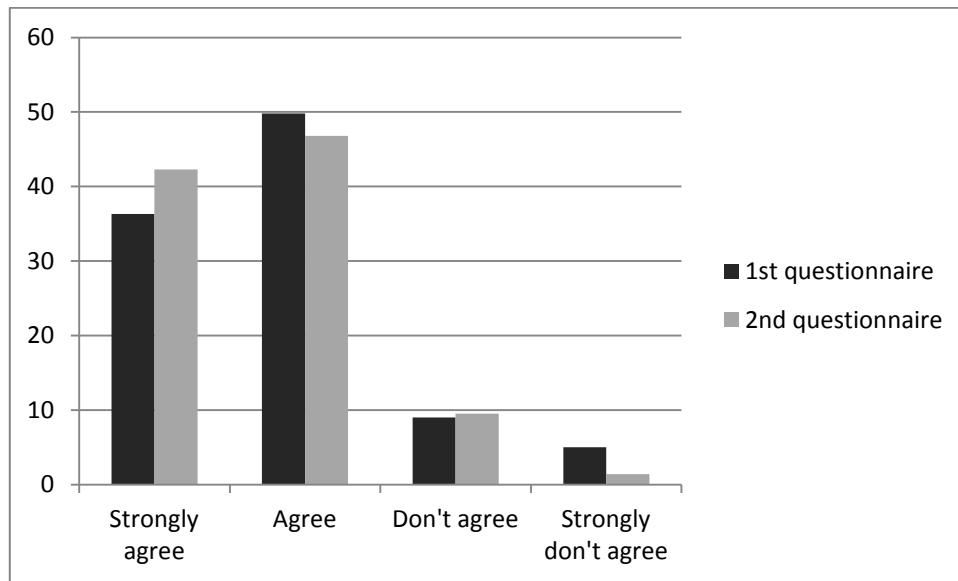


Figure 5: Comparing the levels of agreement among students that using laptops enhances students' concentration in the two students' questionnaires

Summary: The majority of the students agree that using their laptops enhanced their concentration and attention to teachers which needs greater attention in future studies as laptops were considered a great source of distraction by many researches.

5.1.7. Students' understanding:

In a response for a statement that using the students' laptops in the classroom has guaranteed better understanding for the students, 46% (n= 184) of the students in the first questionnaire strongly agreed, 44.5% (n= 178) agreed, 7.8% (n= 31) didn't agree, and 1.8% (n= 7) strongly didn't agree. In the second questionnaire, 51.8% (n= 186) of the students strongly agreed that using the students' laptops in the classroom has guaranteed better understanding for the students, 42.1% (n= 151) agreed, 4.7% (n= 17) didn't agree, and 1.4% (n= 5) strongly didn't agree.

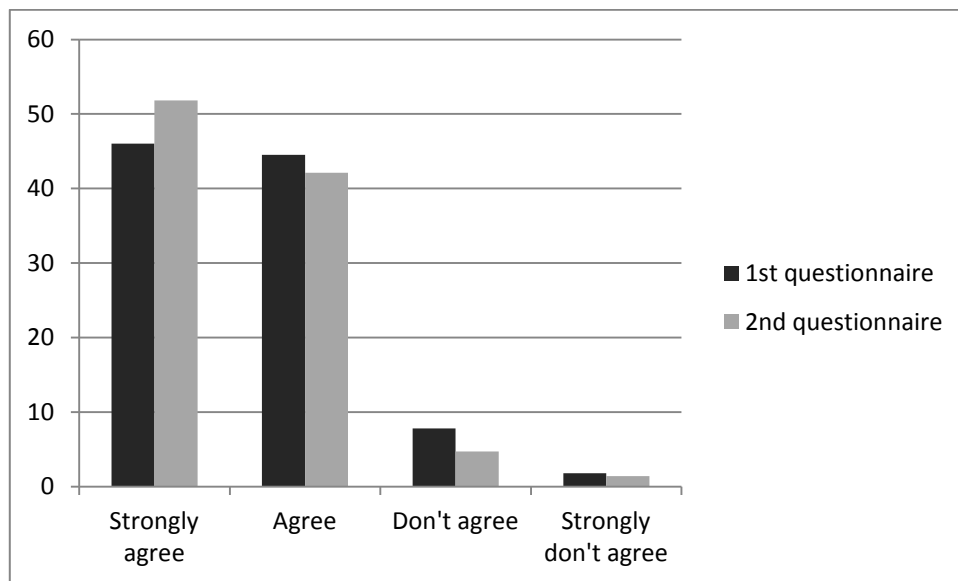


Figure 6: Comparing the levels of agreement among students that using laptops guaranteed better understanding in the two students' questionnaires

Summary: A remarkable agreement among students that using their laptops granted better understanding for them without significant differences between the two questionnaires.

5.1.8. Achieving higher marks:

When asked if using their laptops in the classroom helped them to achieve higher marks, 42.8% (n= 171) of the students in the first questionnaire strongly agreed, 43.8% (n= 175) agreed, 11.3% (n= 45) didn't agree, and 2.3% (n= 9) strongly didn't agree. In the second questionnaire, 43.2% (n= 155) of the students strongly agreed that using their laptops in the classroom helped them to achieve higher marks, 51% (n= 183) agreed, 4.7% (n= 17) didn't agree, and 1.1% (n= 4) strongly didn't agree.

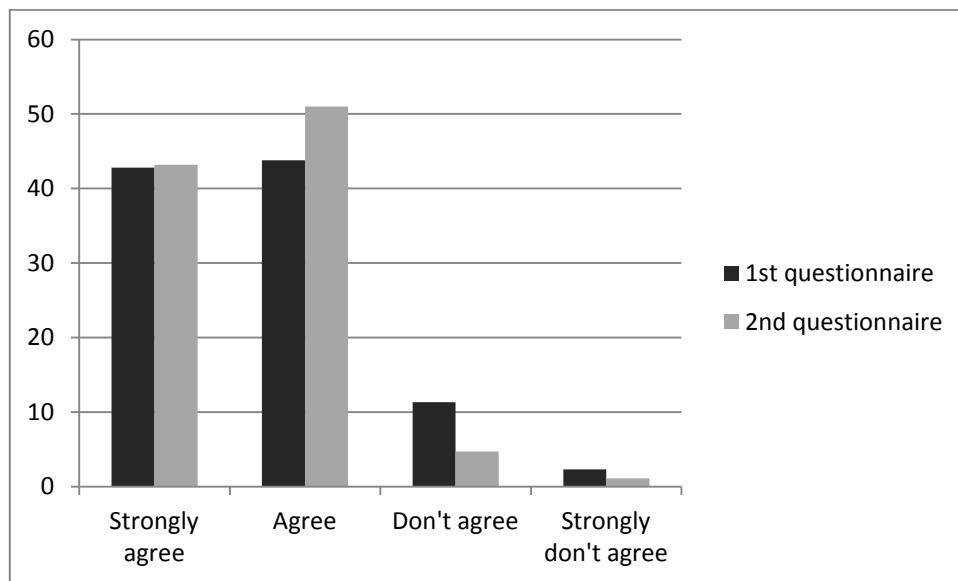


Figure 7: Comparing the levels of agreement among students that using laptops helped to achieve higher marks in the two students' questionnaires

Summary: A significant agreement among the students that using their laptops helped them to achieve higher marks with a noticeable increase in the second questionnaire.

5.1.9. Students' behavior:

One of the main questions in the first questionnaire was asking the students if they think using their laptops in the classroom has improved the students' behavior. 22.3% (n= 89) of the students strongly agreed, 42.3% (n= 169) agreed, 27% (n= 108) didn't agree, and 8.5% (n= 34) strongly didn't agree.

In the second questionnaire, the percentage of the students who strongly agreed that using laptops in the classroom has improved the students' behavior was increased to 28.1% (n= 101) and the percentage of those who agreed was increased also to 45.1% (n= 162) while 22.8% (n= 82) didn't agree, and 3.9% (n= 14) strongly didn't agree.

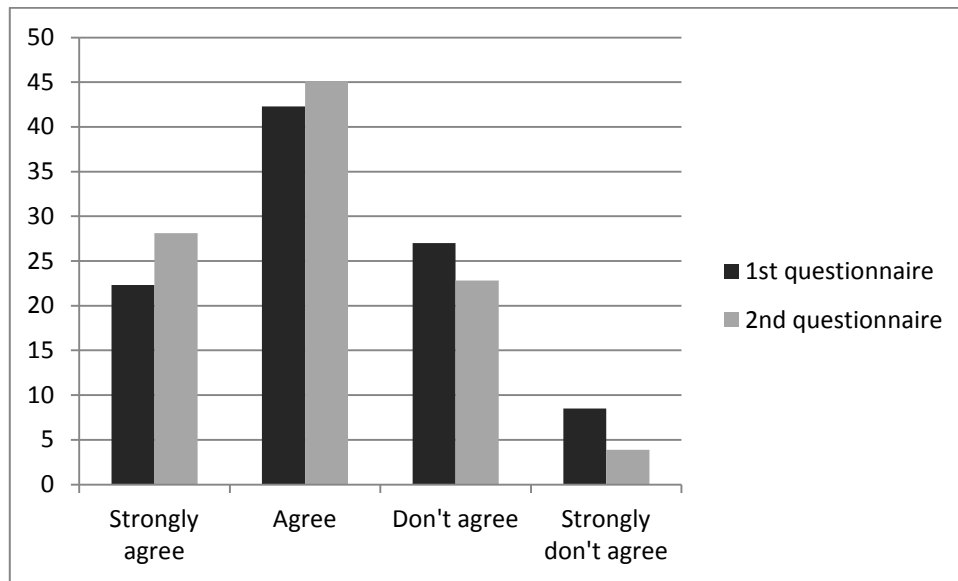


Figure 8: Comparing the levels of agreement among students that using laptops improved students' behavior in the two students' questionnaires

Summary: The increase in the level of agreement that using laptops improved the students' behavior is positive but the high percentages of non agreement proves the students' concerns about the issue and needs further study.

5.1.10. Time saving:

41.8% (n= 167) of the students in the first questionnaire strongly agreed that using their laptops in the classroom was time saving. 38% (n= 152) of them agreed, 16.5% (n= 66) didn't agree, and 3.8% (n= 15) strongly didn't agree.

In the second questionnaire, 47.6% (n= 171) of the students strongly agreed that using their laptops in the classroom was time saving. 41.8% (n= 150) of them agreed, 7.8% (n= 28) didn't agree, and 2.8% (n= 10) strongly didn't agree.

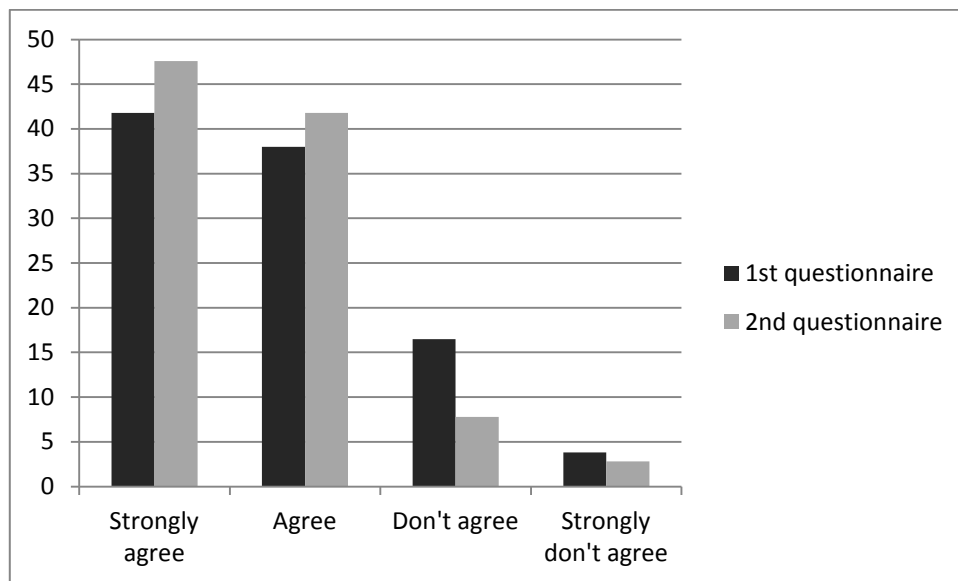


Figure 9: Comparing the levels of agreement among students that using laptops is time saving in the two students' questionnaires

Summary: The level of agreement among students that using their laptops is time saving is clearly increased in the second questionnaire in parallel with the drop of non agreement level.

5.1.11. Fun and enjoyable:

In the first questionnaire, 48% (n= 192) of the students strongly agreed that using the students' laptops in the classroom was fun and enjoyable, 39.5% (n= 158) of them agreed, 10.5% (n= 42) didn't agree, and 2% (n= 8) strongly didn't agree.

In the second questionnaire, 55.2% (n= 198) of the students strongly agreed that using the students' laptops in the classroom was fun and enjoyable, 34.5% (n= 124) of them agreed, 5.3% (n= 19) didn't agree, and 5% (n= 18) strongly didn't agree.

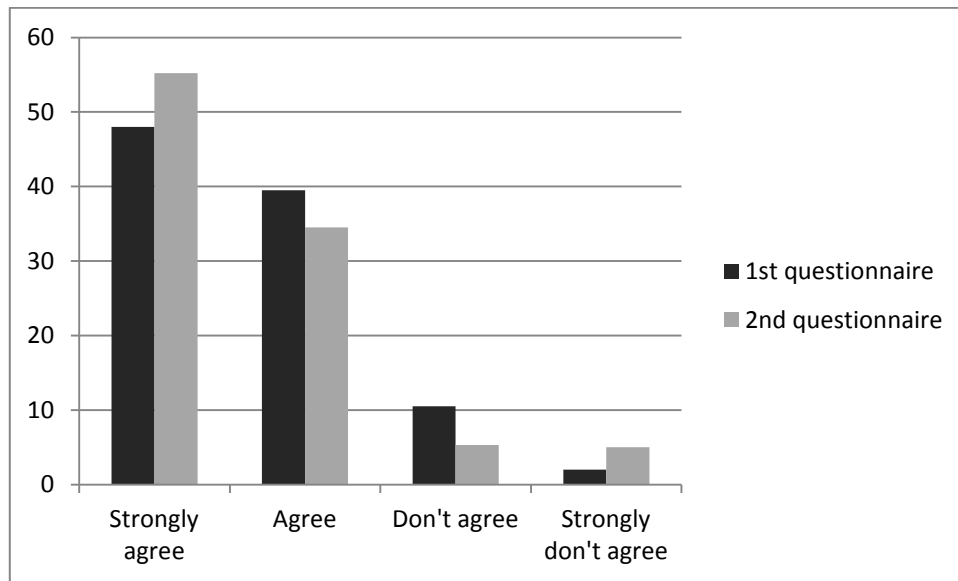


Figure 10: Comparing the levels of agreement among students that using laptops is fun and enjoyable in the two students' questionnaires

Summary: One of the main objectives from adopting the One-To-One E-Learning project by the school under research is proved by the high percentages of agreement among students that using their laptops is fun and enjoyable.

5.1.12. Supporting using laptops in the teaching and learning process in the school:

Finally, when asked if they support using the students' laptops in the teaching and learning process in the school, 73.3% (n= 293) of the students in the first questionnaire strongly agreed, 20.5% (n= 82) agreed, 3.5% (n= 14) didn't agree, and 2.8% (n= 11) strongly didn't agree.

In the second questionnaire, 74.4% (n= 267) of the students strongly agreed, 21.5% (n= 77) agreed, 2.5% (n= 9) didn't agree, and 1.7% (n= 6) strongly didn't agree.

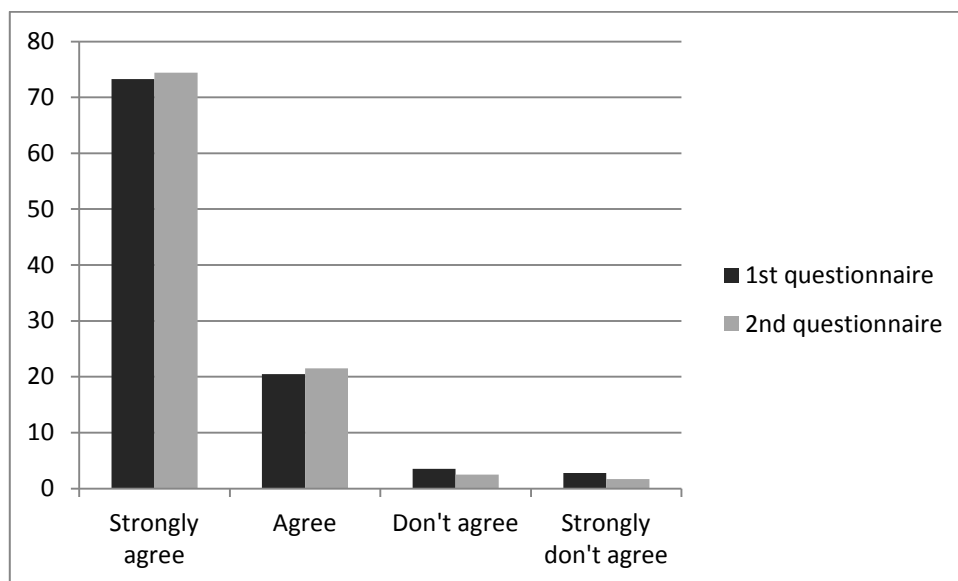


Figure 11: Comparing the levels of agreement among students about supporting using laptops in the school in the two students' questionnaires

Summary: Very obvious support from the students to the project with a slight increase in the second questionnaire.

5.2. Analysis and discussion of the two teachers' questionnaires

5.2.1. Population and sample size:

In the first teachers' questionnaire, conducted in June 2011, and as shown in table 3, the total population of all teachers was (42) with a sample size of (36) teachers forming 85.7% of the total population. English teachers were consisting 26.2% (n= 11) of the total population, 25% (n= 9) of the sample size, and their sample size was consisting 81.8% of the total English teachers population. Science teachers were consisting 23.8% (n= 10) of the total population, 25% (n= 9) of the sample size, and their sample size was consisting 90% of the total science teachers population. Math teachers were consisting 19% (n= 8) of the total population, 19.4% (n= 7) of the sample size, and their sample size was consisting 87.5% of the total math teachers population. Applied technology teachers were consisting 19% (n= 8) of the total

population, 16.7% (n= 6) of the sample size, and their sample size was consisting 75% of the total applied technology teachers population. ICT teachers were consisting 11.9% (n= 5) of the total population, 13.9% (n= 5) of the sample size, and their sample size was consisting 100% of the total ICT teachers population.

| Subject | English | Science | Math | Applied Technology | ICT | Total |
|---|---------|---------|------|--------------------|------|-------|
| Number of teachers | 11 | 10 | 8 | 8 | 5 | 42 |
| Percentage of each department (%) from the total number of teachers | 26.2 | 23.8 | 19 | 19 | 11.9 | 100 |
| Sample size | 9 | 9 | 7 | 6 | 5 | 36 |
| Percentage of each sample size (%) from the total sample size | 25 | 25 | 19.4 | 16.7 | 13.9 | 100 |
| Percentage of each sample size (%) from the total number of teachers in each department | 81.8 | 90 | 87.5 | 75 | 100 | 85.7 |

Table 7: Population and sample size of the first teachers' questionnaire – June 2011

In the second teachers' questionnaire, conducted in March 2012, and as shown in table 4, the total population was (46) teachers with a sample size of (36) teachers forming 78.3% of the total population. English teachers were consisting 26.1% (n= 12) of the total population, 25% (n= 9) of the sample size, and their sample size was consisting 75% of the total English teachers population. Science teachers were consisting 21.7% (n= 10) of the total population, 25% (n= 9) of the sample size, and their sample size was consisting 90% of the total science teachers population. Math teachers were consisting 19.6% (n= 9) of the total population, 19.4% (n= 7) of the sample size, and their sample size was consisting 77.8% of the total math teachers

population. Applied technology teachers were consisting 21.7% (n= 10) of the total population, 16.7% (n= 6) of the sample size, and their sample size was consisting 60% of the total applied technology teachers population. ICT teachers were consisting 10.9% (n= 5) of the total population, 13.9% (n= 5) of the sample size, and their sample size was consisting 100% of the total ICT teachers population.

| Subject | English | Science | Math | Applied Technology | ICT | Total |
|---|---------|---------|------|--------------------|------|-------|
| Number of teachers | 12 | 10 | 9 | 10 | 5 | 46 |
| Percentage of each department (%) from the total number of teachers | 26.1 | 21.7 | 19.6 | 21.7 | 10.9 | 100 |
| Sample size | 9 | 9 | 7 | 6 | 5 | 36 |
| Percentage of each sample size (%) from the total sample size | 25 | 25 | 19.4 | 16.7 | 13.9 | 100 |
| Percentage of each sample size (%) from the total number of teachers in each department | 75 | 90 | 77.8 | 60 | 100 | 78.3 |

Table 8: Population and sample size of the second teachers' questionnaire – March 2012

5.2.2. Magnitude of students' laptops usage:

52.8% (n= 19) of the total sample size in the first questionnaire estimated the students' laptop usage in the classroom to be during more than half of the periods, including 11.1% (n= 4) of the total usage was in every period, while 47.2% (n= 17) thought it was less than half of the periods.

In the second questionnaire, the percentage of teachers who estimated the usage of students' laptops in the classroom in more than half of the periods increased slightly to 55.6% (n= 20), including 16.7% (n= 6) of the total usage was in every period, and the percentage of those who believed the usage was less than half of the periods was slightly dropped to 44.4% (n= 16).

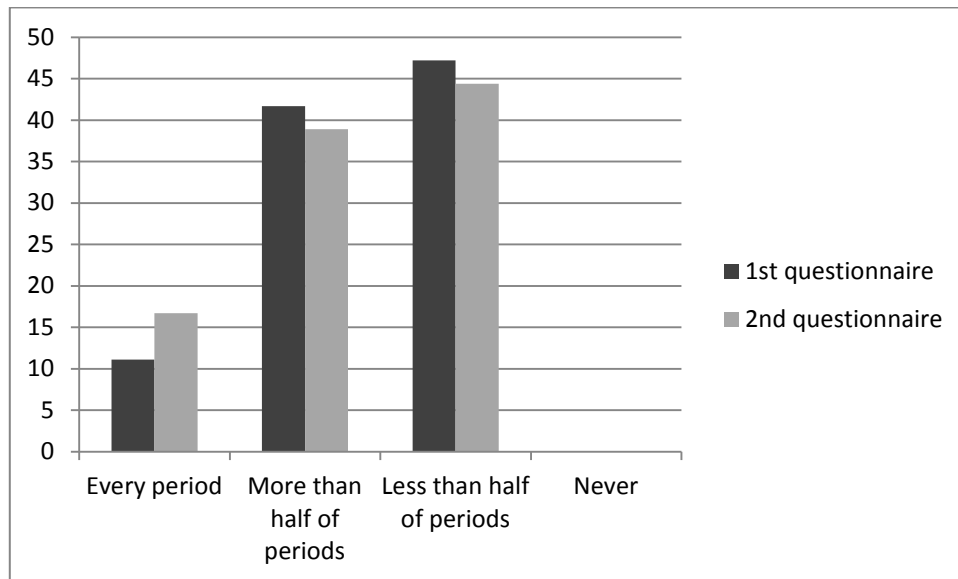


Figure 12: Comparing the magnitude of laptop usage in the two teachers' questionnaires

Summary: The distribution is very narrow between using the students' laptops in more or less than the half of periods in the first questionnaire and is a little wider in the second questionnaire.

5.2.3. Main activities of laptop usage by students in the classroom:

In this part, many responses were allowed and the teachers were able to specify any more activities than the five options given. The main activity in which the students used their laptops in the classroom according to the responses in the first questionnaire was using worksheets with a 75% (n= 27) of the responses. The second activity was solving problems with 72.2% (n= 26) of the responses then doing exams with a 50% (n= 18) and taking notes 33.3% (n= 12) and using text book 27.8% (n=

10). 17 teachers specified three more activities than the listed five and they were: working on their projects (11 responses), doing the homework or checking it (2 responses), and searching the net for information (4 responses). In the second questionnaire, the main activity in the classroom was using worksheets with 88.9% (n= 32) of the responses followed by solving problems with a 63.9% (n= 23), doing exams with 47.2% (n= 17), using text book 36.1% (n= 13), and taking notes 19.4% (n= 7). 12 teachers specified three more activities than the listed five and they were: working on their projects (8 responses), doing the homework or checking it (1 responses), and searching the net for information (3 responses).

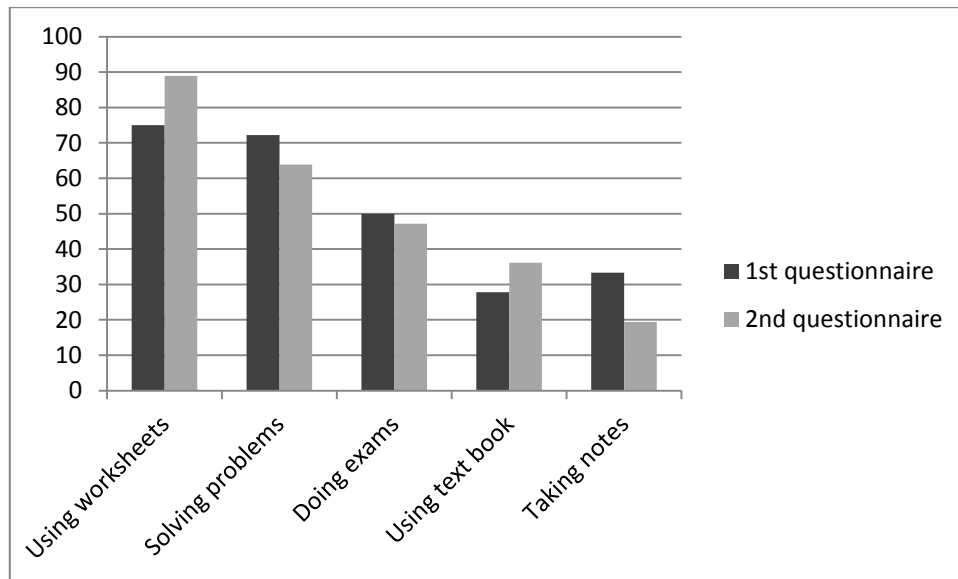


Figure 13: Comparing the main activities of laptop usage in the two teachers' questionnaires

Summary: No significant differences between the two questionnaires except for the sudden drop in using the students' laptops in taking notes in the second questionnaire.

In the following seven sections, the teachers were given a simplified Likert scale of five points (strongly agree, agree, neutral, don't agree, and strongly don't agree) and they were requested to choose one option only.

5.2.4. Students' concentration:

In a response for a statement that using the students' laptops in the classroom has increased the students' concentration and attention to teachers, 25% (n= 9) of the teachers in the first questionnaire strongly agreed, 52.8% (n= 19) agreed, 11.1% (n= 4) were neutral, 5.6% (n= 2) didn't agree, and 5.6% (n= 2) strongly didn't agree. In the second questionnaire, 8.3% (n= 3) of the teachers strongly agreed, 36.1% (n= 13) agreed, 38.9% (n= 14) were neutral, 13.9% (n= 5) didn't agree, and 2.8% (n= 1) strongly didn't agree.

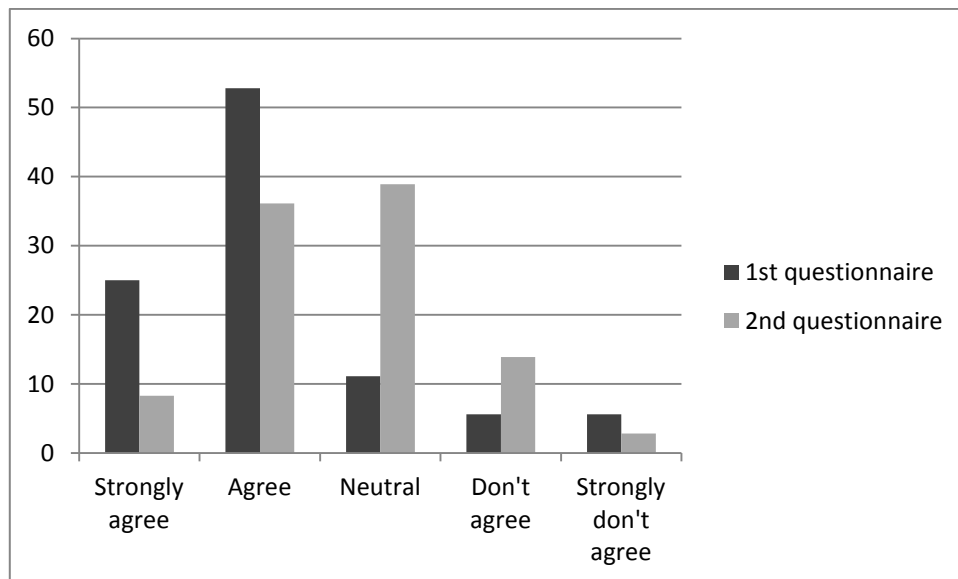


Figure 14: Comparing the levels of agreement among teachers that using laptops enhanced students' concentration in the two teachers' questionnaires

Summary: The great level of agreement among teachers that using students' laptops enhanced students' concentration in the first questionnaire dropped dramatically in the second questionnaire which needs further attention along with the high percentage of neutralism in the second questionnaire.

5.2.5. Students' understanding:

In a response for a statement that using the students' laptops in the classroom has granted better understanding for the students, 33.3% (n= 12) of the teachers in the first questionnaire strongly agreed, 38.9% (n= 14) agreed, 19.4% (n= 7) were neutral, 8.3% (n= 3) didn't agree, and nobody strongly didn't agree. In the second questionnaire, 13.9% (n= 5) of the teachers strongly agreed, 36.1% (n= 13) agreed, 33.3% (n= 12) were neutral, 13.9% (n= 5) didn't agree, and 2.8% (n= 1) strongly didn't agree.

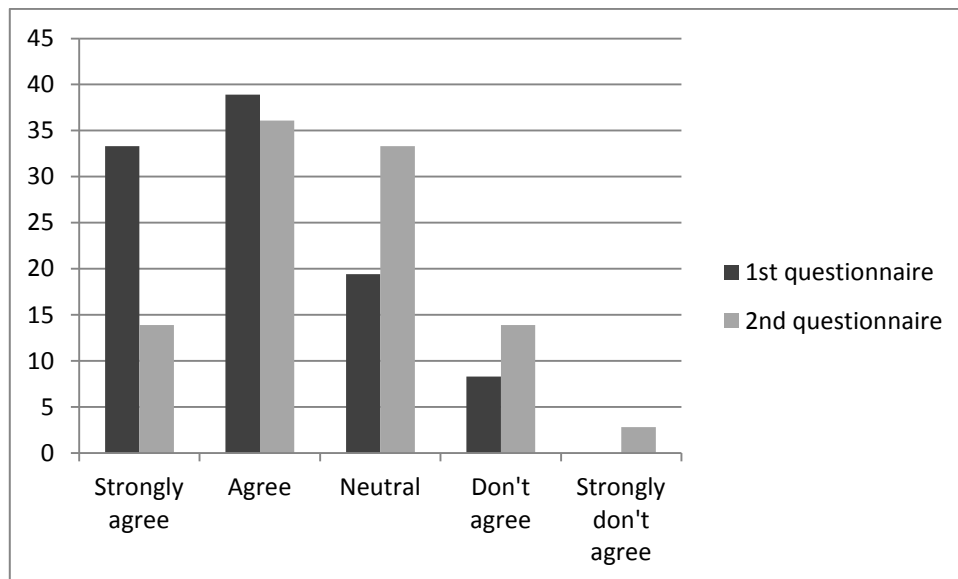


Figure 15: Comparing the levels of agreement among teachers that using laptops by students has guaranteed better understanding for them in the two teachers' questionnaires

Summary: There is still a considerable difference between the agreement and non agreement levels among teachers about the understanding of students but the neutrality and non agreement level increased significantly in the second questionnaire. A further investigation may be needed.

5.2.6. Achieving higher marks:

When asked if using students' laptops in the classroom helped them to achieve higher marks, 11.1% (n= 4) of the teachers in the first questionnaire strongly agreed, 36.1% (n= 13) agreed, 30.6% (n=11) responded neutrally, 22.2% (n= 8) didn't agree, and no one strongly didn't agree. In the second questionnaire, 13.9% (n= 5) of the teachers strongly agreed, 30.6% (n= 11) agreed, 30.6% (n=11) responded neutrally, 25% (n= 9) didn't agree, and no one strongly didn't agree.

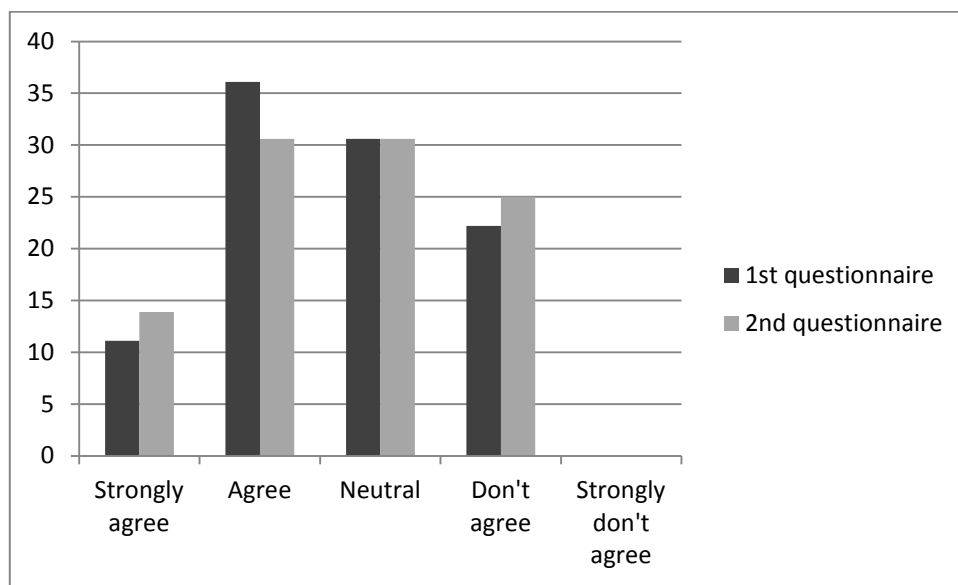


Figure 16: Comparing the levels of agreement among teachers that using laptops helped the students to achieve higher marks in the two teachers' questionnaires

Summary: This level of agreement needs more attention due to the uncertainty in the middle area of the graph.

5.2.7. Students' behavior:

A major question in the first questionnaire was asking the teachers if they think using students' laptops in the classroom has improved their behavior. 11.1% (n= 4) of the teachers strongly agreed, 38.9% (n= 14) agreed, 27.8% (n=10) said they are neutral, 13.9% (n= 5) didn't agree, and 8.3% (n= 3) strongly didn't agree. In the second

questionnaire, the percentage of the teachers who strongly agreed that using laptops in the classroom has improved the students' behavior was dropped to 2.8% (n= 1) and the percentage of those who agreed was dropped also to 33.3% (n= 12) while 33.3% (n= 12) were neutral, 22.2% (n= 8) didn't agree, and 8.3% (n= 3) strongly didn't agree.

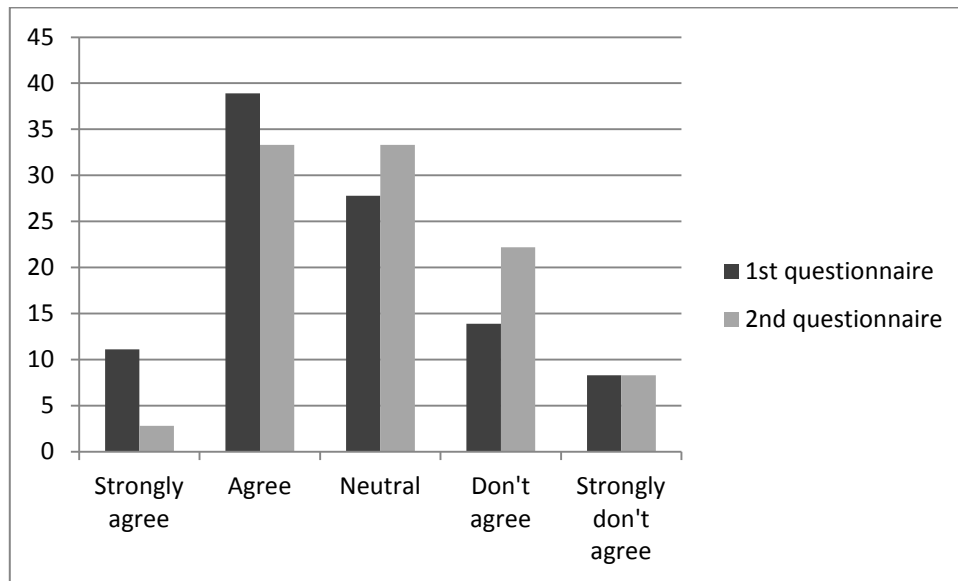


Figure 17: Comparing the levels of agreement among teachers that using students' laptops has improved students' behavior in the two teachers' questionnaires

Summary: An obvious drop for the level of agreement and clear increase for the level of non agreement with a high percentage of being neutral may point to an undesirable trend in the students' behavior

5.2.8. Time saving:

27.8% (n= 10) of the teachers in the first questionnaire strongly agreed that using students' laptops in the classroom was time saving. 38.9% (n= 14) agreed, 8.3% (n=3) were neutral, 19.4% (n= 7) didn't agree, and 5.6% (n= 2) strongly didn't agree.

In the second questionnaire, 13.9% (n= 5) of the teachers strongly agreed, 38.9% (n= 14) agreed, 16.7% (n=6) responded neutrally, 25% (n= 9) didn't agree, and 5.6% (n= 2) strongly didn't agree.

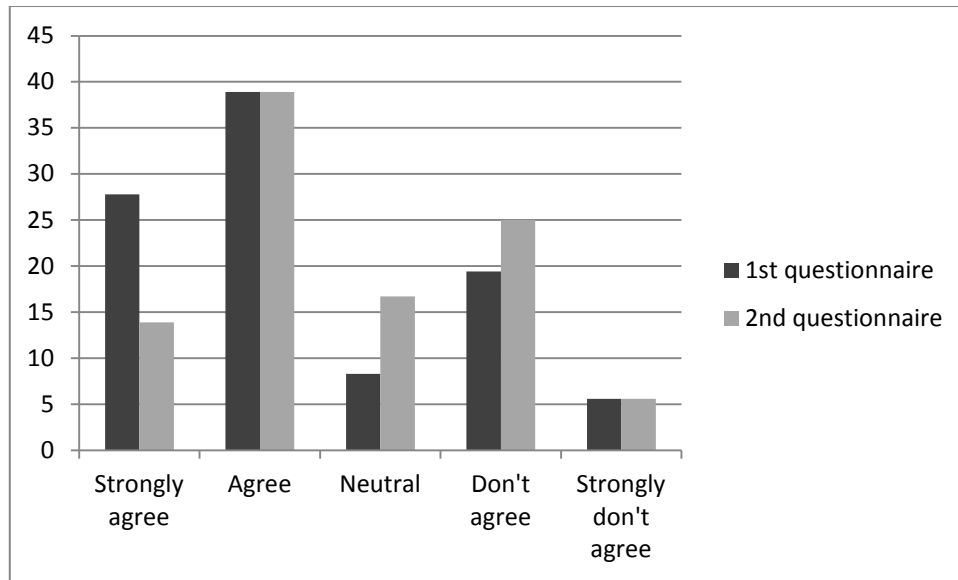


Figure 18: Comparing the levels of agreement among teachers that using students' laptops is time saving in the two teachers' questionnaires

Summary: The difference between levels of agreement and non agreement was shrunk in the second questionnaire which needs further research.

5.2.9. Fun and enjoyable:

In the first questionnaire, 30.6% (n= 11) of the teachers strongly agreed that using the students' laptops in the classroom was fun and enjoyable, 55.6% (n= 20) of them agreed, 8.3% (n= 3) were neutral, 2.8% (n= 1) didn't agree, and 2.8% (n= 1) strongly didn't agree.

In the second questionnaire, 22.2% (n= 8) of the teachers strongly agreed, 61.1% (n= 22) of them agreed, 16.7% (n= 6) were neutral, and none of the teacher didn't agree or strongly didn't agree.

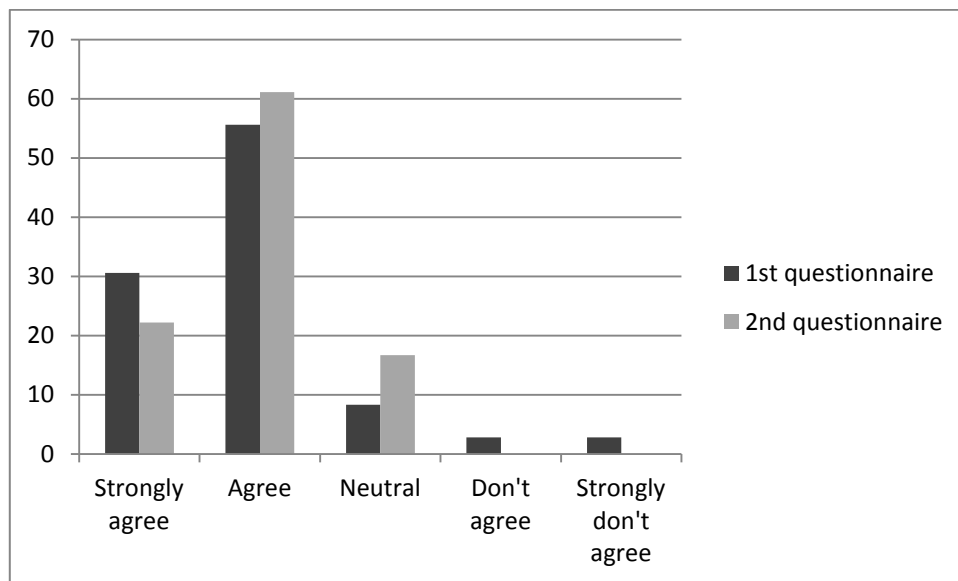


Figure 19: Comparing the levels of agreement among teachers that using students' laptops is fun and enjoyable in the two teachers' questionnaires

Summary: A very high level of agreement among teachers that using students' laptops is fun and enjoyable and a disappearance for the non agreement level in the second questionnaire

5.2.10. Supporting using students' laptops in the teaching and learning process in the school:

Finally, when asked if they support using the students' laptops in the teaching and learning process in the school, 61.1% (n= 22) of the teachers in the first questionnaire strongly agreed, 22.2% (n= 8) agreed, 11.1% (n= 4) were neutral, 5.6% (n= 2) didn't agree, and no one strongly didn't agree.

In the second questionnaire, 30.6% (n= 11) of the teachers strongly agreed, 44.4% (n= 16) agreed, 19.4% (n= 7) were neutral, 2.8% (n= 1) didn't agree, and 2.8% (n= 1) strongly didn't agree.

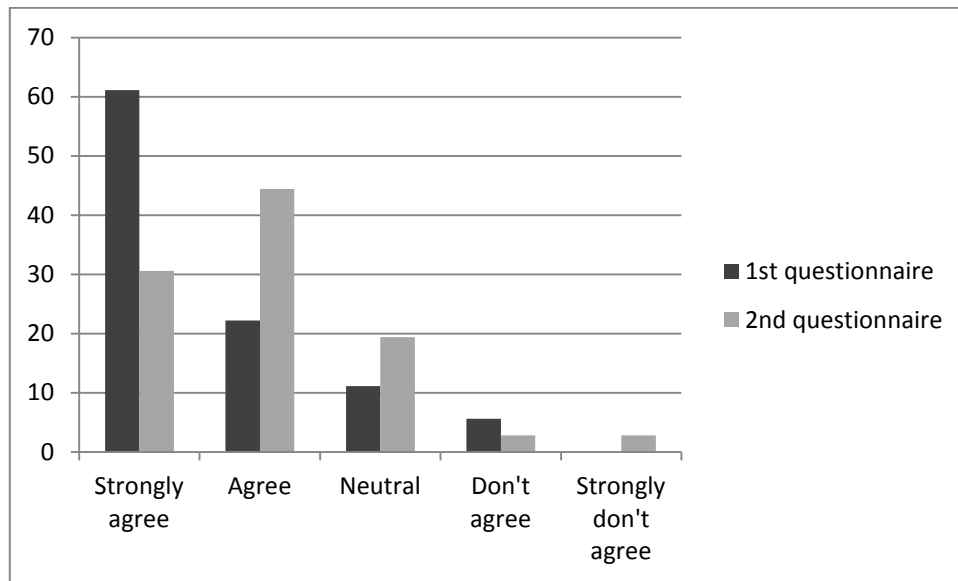


Figure 20: Comparing the levels of agreement among teachers about supporting using the students' laptops in the school in the two teachers' questionnaires

Summary: The total level of agreement among teachers about supporting using students' laptops kept high but exchanging the level from strongly to the normal agree in the second questionnaire needs further study to explore the reasons.

6. Conclusions and Recommendations

6.1. Conclusions

Questionnaires were circulated to the students and teachers of a career-based technical high school in the United Arab Emirates in two consecutive academic years to explore their perspectives about using students' laptops within a One-To-One E-Learning project adopted by their school and designed to enhance the educational experience of students, to foster learning, and to transform learning into an exciting, fun, and fulfilling experience.

Analyzing the findings allowed comparing the students' and teachers' perspectives in one academic year (after one year of implementing the project) with their perspectives after another academic year of implementing the project which led to important and significant findings to be discussed below.

6.1.1. Main findings

The large sample sizes used for both the students' and teachers' questionnaires helped in giving a clear scope about the trends and perspectives of students and teachers.

One of the main findings in this research was that students seem clear and obvious mainly in their perspectives on the contrary of their teachers who looked uncertain in some cases to be mentioned below.

About 89% of the students estimated their usage of laptops as more than half of the week days while this result was only 50-55% only at teachers' side. Further study to limit the needed feedback for educational purposes and helping the students being familiar with educational purposes when using their laptops is critical and desired.

English subject was clearly the one in which most of the students used their laptops and Arabic and Islamic studies was the least one to be used in. A close attention for

math subject should be given to try to discover the high votes of least subject after the Arabic and Islamic studies.

The main activities in which the students used their laptops in the classroom were using worksheets, solving problems, and doing exams. The stress on the importance of taking notes and searching for information by the students' laptops is needed.

While the choice of the students was a high level of agreement with the statement that using their laptops enhanced their concentration with 85-90% of agreement, the case wasn't so clear with teachers. In the teachers side there was a decline in the agreement level in the second questionnaire with a high percentage of neutralism.

The same situation with the level of agreement with granting a better understanding when using students' laptops as the students agreed with 85-95% but the teachers' level of agreement showed a drop from about 70% to about 50% in the second questionnaire. Furthermore, the high percentage of neutralism at teachers in the topic of achieving higher marks by using the laptop helped to make their choice in this topic not decided clearly while the students agreed with a percentage between 85-95%.

The situation was repeated again in the topic of improving students' behavior in which the level of agreement of teachers declined obviously in the second questionnaire with a high percentage of neutralism on the opposite of the students who agreed between 65-82% of their sample size.

The students agreed between 80-90% that using their laptops for educational purposes saved their time while their teachers responded with a significant drop of the agreement level on that topic in the second questionnaire.

It seems judging on the One-To-One E-Learning project as fun and enjoyable was the main common trend between students and their teachers with about 80-85% of agreement level in both sides.

As was expected in the hypotheses of the research, the percentage of supporting the use of students' laptops in the teaching and learning process in the school under research was higher at the students, with 93-96% level of agreement, than at their teachers who exhibited about 75-80% support for the project. It is a high support from teachers, of course, but still not enough to compete with that one of students which may need further study to explore the causes and trying to remove any barriers in the road.

6.1.2. Implications

The results of the current research may suggest a critical review for the policy on adopting the One-To-One E-Learning project in the high school under study to redefine its objectives and introduce them to the students and teachers in order to build a wider alliance with the main stakeholders and the main items that can contribute in the success or the failure of the adopted project.

Moreover, the main findings mentioned above, may require, in most of them, for extended implications for further research and study. The current research was aiming to explore the students' and teachers' perspectives and to compare between these perspectives in two consecutive academic years and not to search for the reasons behind them or to find solutions and ways for treatment. The objective was a descriptive one and not an intervention.

6.2. Recommendations

Based on the findings and the comparison between the perspectives of the students and teachers in two consecutive academic years, the current research recommends arranging interviews and classroom observations in an extended qualitative study to support or not support the findings of this study with more evidences and artifacts.

Deeper study for the students' and teachers' perspectives based on the grade level and subject of teaching is recommended starting from the rich data in this research.

A comparison between the perspectives of students from a certain grade level with other grade levels in the same academic year is worth studying. Also, comparing the perspectives of teachers from a certain department with perspectives of teachers from different departments will be interesting. However, conducting a comparison study to find out the perspectives of the same group of students from one grade level during their study in such an environment and how these perspectives develop with more experience in using laptops in educational settings is recommended.

Since adopting the iPads tablets started to invade the educational scene in the United Arab Emirates and other countries, the researcher recommend starting a comparison study of these tablets with the laptops in educational contexts.

Broader view for all the One-To-One projects adopted in the United Arab Emirates and the trial to construct a successful shared platform between all the educational institutions so the students and teachers can benefit from integrating technology in education is very desirable and will be always the ultimate objective.

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Appendices

Appendix I

The Arabic survey of the students' perspectives about using students' laptops in a career-based technical high school in the United Arab Emirates

الطلبة الأعزاء،

أود أن أطلب 10 دقائق من وقتكم لتعبئة الاستبيان التالي حول استخدام أجهزة الحاسوب المحمول في عملية التعلم والتعليم في مدرستنا. هذا الاستبيان هو جزء من بحث أجريه حول آراء الطلاب في فكرة استخدام جهاز الحاسوب المحمول لأغراض تربوية وتأثيره على سلوك الطلبة ومدى دعمهم للفكرة. آراؤكم سوف تكون سرية تماماً وسوف لن تستخدم لأية أغراض أخرى.

أقدر لكم مشاركتكم وأود إعلامكم أنني أعتبر آراءكم قيمة جداً لهذا البحث.

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| كل يوم | 3-4 أيام في الأسبوع | 1-2 أيام في الأسبوع | أبداً |
|--------|---------------------|---------------------|-------|

3- في أية مادة دراسية استخدمت جهاز حاسوبك المحمول داخل الصف أكثر من باقي المواد؟-----

4- في أية مادة دراسية استخدمت جهاز حاسوبك المحمول داخل الصف أقل من باقي المواد؟-----

5- ماذا كان السبب الرئيسي لاستخدامك الحاسوب المحمول، لأغراض تربوية، داخل الغرفة الصفية؟

| | | | | |
|--------------------------|------------------|----------------------|-------------|------------------|
| لاستخدام الكتاب المدرسي | لكتابة الملاحظات | لاستخدام أوراق العمل | لحل المسائل | لأداء الاختبارات |
| أخرى، أذكرها رجاءً:----- | | | | |

الرجاء اختيار الإجابة الأنسب لك لكلٍ من العبارات التالية بوضع إشارة (√) أمام كلٍ منها، اختر إجابة واحدة فقط لكل عبارة رجاءً:

| تسلسل | العبارة | أوافق بشدة | أوافق | لا أوافق بشدة | لا أوافق |
|-------|--|------------|-------|---------------|----------|
| 6 | استخدام حاسوبي المحمول داخل الصف، لأغراض تربوية، زاد من تركيزي وانتباهي للمعلم | | | | |
| 7 | استخدام حاسوبي المحمول، لأغراض تربوية، ساعدني لأفهم دروسي بشكل أفضل | | | | |
| 8 | استخدام حاسوبي المحمول، لأغراض تربوية، ساعدني لأحقق درجات أعلى | | | | |
| 9 | استخدام الحاسوب المحمول داخل الصف، لأغراض تربوية، حسن من سلوك الطلاب | | | | |
| 10 | استخدام الحاسوب المحمول، لأغراض تربوية، يوفر الوقت | | | | |
| 11 | استخدام الحاسوب المحمول، لأغراض تربوية، ممتع ومرح | | | | |
| 12 | أنا أؤيد استخدام أجهزة الحاسوب المحمول في عملية التعلم والتعليم في مدرستنا | | | | |

شكراً جزيلاً لمشاركتكم في هذا الاستبيان

Appendix II

The English translation of the survey of the students' perspectives about using students' laptops in a career-based technical high school in the United Arab Emirates

Dear student,

I would like to ask for 10 minutes of your time to fill out the following survey about using laptops in the teaching and learning process in our school. This survey is a part of my research about the students' perspectives about the idea of using the laptop for educational purposes and its effect on their behavior and their support for the idea.

Your feedback is completely anonymous and will not be used for any other purpose.

I appreciate your participation and would like you to know that we value your feedback a lot.

1- In which grade you are?

| | | | | | | | |
|---|--|----|--|----|--|----|--|
| 9 | | 10 | | 11 | | 12 | |
|---|--|----|--|----|--|----|--|

2- How often did you use your laptop, for educational purposes, during the academic year?

| | | | | | | | |
|--------------|--|--------------------|--|--------------------|--|-------|--|
| Every day | | 3-4 days a week | | 1-2 days a week | | Never | |
|--------------|--|--------------------|--|--------------------|--|-------|--|

3- In what subject you used the laptop the most inside the classroom? -----

4- In what subject you used the laptop the least inside the classroom? -----

5- What was the main reason for using your laptop for educational purposes inside the classroom?

| | | | | | | | | | |
|------------------------|--|--------------|--|------------------|--|------------------|--|-------------|--|
| Using text book | | Taking notes | | Using worksheets | | Solving problems | | Doing exams | |
| Other; specify please: | | ----- | | | | | | | |

Choose the suitable answer for you from each of the following statements by putting (✓) in front of each one; choose one answer only please:

| No. | Statement | Strongly agree | Agree | Disagree | Strongly disagree |
|-----|--|----------------|-------|----------|-------------------|
| 6 | Using my laptop inside the classroom, for educational purposes, increased my focus and attention to teachers | | | | |
| 7 | Using my laptop, for educational purposes, helped me to better understand my lessons | | | | |
| 8 | Using my laptop, for educational purposes, helped me to achieve higher marks | | | | |
| 9 | Using laptops inside the classroom, for educational purposes, improved the behavior of students | | | | |
| 10 | Using laptops for educational | | | | |

| | | | | | |
|----|--|--|--|--|--|
| | purposes saves time | | | | |
| 11 | Using laptops for educational purposes is enjoyable and fun | | | | |
| 12 | I support using laptops in the teaching and learning process in our school | | | | |

Thank you for taking the time and effort to participate

Appendix III

The survey of the teachers' perspectives about using students' laptops in a career-based technical high school in the United Arab Emirates

Dear colleague,

I would like to ask for 10 minutes of your time to fill out the following survey about using students' laptops in the teaching and learning process in our school. This survey is a part of my research about the teachers' perspectives about the idea of using the laptop for educational purposes and their support for the idea.

Your feedback is completely anonymous and will not be used for any other purpose.

I appreciate your participation and would like you to know that I value your feedback a lot.

1- What subject do you teach? -----

2- How often did your students use their laptops, for educational purposes, during the academic year?

| | | | | | | | |
|-----------------|--|----------------------------------|--|----------------------------------|--|-------|--|
| Every period | | More than half of the periods | | Less than half of the periods | | Never | |
|-----------------|--|----------------------------------|--|----------------------------------|--|-------|--|

3- What was the main reason for your students to use their laptops, for educational purposes, inside the classroom?

| | | | | | | | | | |
|------------------------|--|--------------|--|------------------|--|------------------|--|-------------|--|
| Using text book | | Taking notes | | Using worksheets | | Solving problems | | Doing exams | |
| Other; specify please: | | ----- | | | | | | | |

Kindly choose the suitable answer for you from each of the following statements by putting (✓) in front of each one; choose one answer only for each statement please:

| No. | Statement | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|-----|---|----------------|-------|---------|----------|-------------------|
| 4 | Using the students' laptops inside the classroom, for an educational purpose, increased their focus and attention to teachers | | | | | |
| 5 | Using the students' laptops, for educational purposes, helped them to better understand their lessons | | | | | |
| 6 | Using the students' | | | | | |

| | | | | | | |
|----|---|--|--|--|--|--|
| | laptops, for educational purposes, helped them to achieve higher marks | | | | | |
| 7 | Using the students' laptops inside the classroom, for educational purposes, improved their behavior | | | | | |
| 8 | Using the students' laptops, for educational purposes, saves time | | | | | |
| 9 | Using the students' laptops, for educational purposes, is enjoyable and fun | | | | | |
| 10 | I support using the students' laptops in the teaching and learning process in our school | | | | | |

Thank you for taking the time and effort to participate