

## **A STUDY OF STUDENTS OPINIONS AND EXPERIENCES ON THE USE OF COMPUTERS AND LAPTOPS IN CLASSROOMS IN DUBAI**

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### **Abstract**

Computer and laptop use in classrooms is now the perceived and desired educational norm. In order to assess the affect of computers/laptops on the dynamics of the teaching and learning environment a questionnaire was circulated to students in Dubai in order to gather their opinions and experiences regarding the use of computers/laptop in their classrooms. Results revealed that students did not use laptops/computers a great deal in educational settings but used them extensively outside of the educational setting for educational, social and information driven activities. The students were able to identify the advantages and disadvantages to the use of technology in their classrooms. Concerns regarding pedagogically driven teaching strategies are discussed.

### **United Arab Emirates Adoption of One to One Laptop Initiatives**

Laptops are now perceived of as essential equipment within educational establishments and there has been a rapid growth in the number of schools, colleges and universities worldwide that are implementing 1-to-1 laptop programs (McVay, Snyder, & Graetz, 2005). The Government of the United Arab Emirates (UAE) has invested significant funds in developing ICT in Education as a national priority (Makrakis, 2002). The UAE Ministry of Education in its strategy document Vision 2020 emphasized the use of multimedia-based instructional materials in educational institutions and envisaged all upper secondary schools providing a 'computer to student ratio' of 1:1 by 2010 (MoE, 2000). As a result public and private educational institutions in the UAE have adopted strategies aimed at providing personal laptops to students (MoE, 2000). The question that the introduction of laptops into educational settings raises concern the type of affect felt by those that are then expected to use them for teaching and learning. The purported value of laptops is often presented in terms of the 'added educational value' they bring to the learner (Lowther, Ross, & Morrison, 2003). The purpose of this study was therefore to investigate Dubai based students' opinions and experiences of laptop use in their classrooms.

### **Students Experiences of Computer and Laptop Use in Teaching and Learning Environments–Previous Research Findings**

Numerous research studies have been conducted to evaluate the impact of using laptops in classrooms on both teaching and learning practices and outcomes. The results of these studies have been mixed; particular studies have found laptops increased students' motivation, creativity and facilitated the move to project-based learning (Hembrooke & Gay, 2003; Wurst, Smarkola, & Gaffney, 2008).

Teacher feedback has suggested that laptops help students in developing greater collaborative learning environments in classrooms, and better organizational skills as agenda programs provide regular reminder and deadlines prompts. Not only did students improve their technology skills and display greater engagement in their work, they enjoyed writing more and had a higher daily attendance (Rockman, 2004). Similar positive responses were noted by teachers and students regarding assessment techniques. With laptops teachers were able to assign presentations and multimedia projects to students as well as introducing group work, formative and summative assessment methods and reflective peer evaluation as it was easier to share and comment upon produced work. Students were more creative and experimented more in terms of the resources and material they used in their projects, reports and presentations (Rockman, 2004).

The availability of online resources and the ability to use to work cooperatively with other students as and when students wish to, via email, as opposed to being constrained by 'fixed classroom hours' was another factor identified as another positive factor by teachers and students (Lowther, Rose & Morrison, 2003). Furthermore the quality of the project work was seen to improve from the students who had laptops those students that did not have access to such technology due to teacher expectations of the work they expected students with laptops to be able to research and produce. (Lowther et al., 2003).

Rockman (2007) argues that owning laptops gives students a sense of pride, possession, authority and even responsibility. Moreover, laptops prepare students for the "life-beyond-school skills" such as collaboration, presentation, time management and problem solving skills that are needed at the workplace in the 21st century. In addition students also learn how to deal with problems with technology, as well as how to maintain and repair them.

There is however another viewpoint that argues that simply having access to technology (in all its forms, including computers/laptops) does not change learning, so we cannot assume that providing computers/laptops to students will simply change the way they think and learn (Clark, 1994; Cuban, 2001). Other research has suggested that computers and laptops can have very serious negative effects; computers can foster and create greater feelings of isolation as well as promoting and facilitating addictive technology dependency behaviours rather than creating independent autonomous learners (Fried, 2008). Moreover the frustration that students encounter when dealing with failed equipment negatively

affect students motivation to learn as well as their actual time spent on their learning task (Fried, 2008).

The problems of distraction and loss of concentration that laptops and computers cause when students use it for non-educational purposes during educational activities time has also been noted as a point of concern (Fried, 2008; Hembrooke & Gay, 2003). Similarly, the 'surface level' of learning it appears to encourage due to the variety of available online resources with students focusing more on using the technology to assist in improving the presentation rather than using it to develop a informed and deeper understanding of the subject content (Cuban 2001). At worst the use of computers and laptops is said to be creating a system that makes cheating and plagiarism the academic norm amongst students and academics (Wurst et al, 2008).

And finally the negative physiological effects of working with computers and laptops is known to create and compound vision problems, create back and neck pain, posture problems, muscular skeletal problems, as well as hand and arm damage in the form of Repetitive Strain Injury (RSI). With children and young adults these issues are magnified as their bodies are in the process of developing and are being exposed to and accustomed to physical behaviours that are known not to be developmentally healthy (Healy, 1998).

### **The Need for this Study**

Schools and colleges in the UAE have been encouraged to promote ICT use in their lessons. With the use of computers and laptops by teachers and students in classrooms, the research suggests that qualitatively new teaching and learning environments have been created. It is therefore of merit to assess the affect of this implementation on students opinions of and experiences of how the technology is being used, as well as students understanding of the role and relationship of technology to their teaching and learning experience.

The purpose of this study was to investigate the opinions and experiences of students on the use of computers/laptops in classrooms. Specifically to allow students to state what they perceived the advantages and disadvantages of working with the technology in their classrooms, and to give their reasons why.

The key questions in this research study focused upon:

1. What types of activities do students typically use computers and laptops in their classrooms for?
2. What do students perceive to be the advantages and disadvantages of using computers and laptops in their classes?
3. What students generally feel about the use of computer and laptops in classes at schools and colleges?

## The Present Research Study

### Participants

A Dubai further education institution participated in this research study. The students were from various programmes. All of the students were in first year of their respective programmes. The questionnaire was administered by two teachers across the various classes they teach. 87 questionnaires were distributed and 70 completed questionnaires were received in total. The results that follow are based upon the responses provided by 33 males and 37 female participants. All those that responded to the survey reported to owning a laptop (N=70). Students that participated in this study were aged between 18 and 20 years old (male students age  $\bar{x} = 18.09$  years, female students age  $\bar{x} = 19.0$  years).

### Materials

An 11-item questionnaire designed to capture information pertaining to students' opinions of and experiences with computer and laptop use in formal classroom settings. The questionnaire clearly stated to all participants that their participation in the study was voluntary and that they were free to decline the invitation to participate without consequence.

The questionnaire comprised of closed questions (7 items) and open ended questions (5 items) and was divided into two parts. The first part was designed to collect demographic information regarding demographic information, whether students owned a laptop or computer, how often and in which lessons they used computers/laptops, the number of hours they felt they spent on their computer/laptop and where they felt they spent most time on their computer/laptop. The second part of the questionnaire focused on students' opinions on the advantages and disadvantages of computer/laptop use in classes and their general 'feelings' about the use of laptops in schools and colleges as well as asking them to describe how computers and laptops were used in their lessons. In addition students were also asked about what they used their computer/laptop for when at home.

### Methodology

Closed end questions were analysed using a statistical software tool. In understanding participants' response to open ended questions a thematic analysis (Braun & Clarke, 2006) was used in order to identify recurring themes for each questionnaire item. In order to ensure there was no researcher bias or a biased coding framework/procedure, a research assistant was asked to thematically analyse just under half of the completed questionnaires (n=30). The themes that were explicitly documented by the two researchers were then compared to assess their validity. While multiple responses were noted for each particular theme, this research will only highlight a few of the students' comments that effectively highlight the general pattern noted in the observed answers.

## Results

In response to a question that asked how often students have lessons where they are allowed to use a computer/laptop on a 7 point Likert Scale, 44.3% responded with '**Never**' (n=31, males=15, females=16) and 55.7% responded with '**Not Very Often**' (n=39, males=18, females=21).

In response to a question that asked students to note the lessons they used computers and laptops most within, 90% responded with 'English' (n = 63, males = 29, females = 34), 7.1% responded with 'Maths' (n = 5, males = 4, females = 1) and 2.9% responded with 'Science' (n = 2, males = 0, females = 2)

In response to a question that asked how many hours students spent on their computers/laptops per day, responses indicated an average of 5 hours per day ( $\bar{x}$  = 5.00, female students  $\bar{x}$  = 5.18 hours per day, male students  $\bar{x}$  = 4.78 hours per day).

And finally in response to the question where do you spend most time on your computer/laptop, participants were given the choices 'At Home', 'At College', 'At Both, College and Home', and 'Other – Please Specify', all 70 participants responded with '**At Home**' (n=70).

### Results – Students' Opinions of Using Computers/ Laptops in Schools and Colleges

The issue of "How are computers/laptops used in lessons?" was put to participants. Students' responses were thematically analysed and six main themes were found to emerge:

*1. Games*

Mostly games, Learning games, Language/ Math games

*2. Searching for information online*

Collecting information in order to complete a project, using the Internet to look up information for assignments and presentations.

*3. Online quizzes and tests*

Online tests and quizzes, Practice lesson activities, quizzes, rehearse exam questions, collaboration games, and email

*4. Language training – authentic materials*

WebQuests, Reading comprehension with multiple-choice questions, Grammar activities, story writing, Watching videos for English (grammar, vocabulary, listening skills)

*5. Creating presentations*

Using PowerPoint to make presentations, Making presentations using PowerPoint

*6. Downloading documents and activities that can be downloaded or printed off*

“Teacher loads up documents that we have to download.” “Teacher puts work online for us to do and look at (e.g., videos).” “Lecture slides online to look at/print.”

Students’ *opinions of the advantages and disadvantages of using computers/laptops in class* were also addressed by the questionnaire. Responses were thematically analysed for **advantages**. Three themes emerged:

*1. Makes teachers’ lives easier*

“It saves time for the teachers, they put their work in a place we can get to.” “It’s easier for the teacher to set work, get the documents we need in one place, do marking, send messages to all students.” “The teacher doesn’t need to waste time making copies of books and handouts, it’s all online.”

*2. Provides lots of up to date information via the Internet*

“Updated information that is related to real life.” “Lots of information in one place.” “A wide variety of information on lots of different subjects.”

*3. Makes lessons more interesting*

“Breaks up the routine in a lesson.” “It’s something different to do.” “Can make lessons more interesting.” “Interesting and interactive learning.”

Responses were thematically analysed for **disadvantages**. Three themes also emerged:

*1. Teachers do not know how to use technology*

“Most teachers haven’t got a clue how to use the technology in class.” “I can do more with my laptop than any teacher.” “Our teachers try but they don’t know how to use it let alone teach with it.” “Just because they put some slides up with power point or get us to make a presentation doesn’t really mean we’re using technology.” “Teachers don’t know what they are doing when they are using technology in class; they are just using it because they’ve been told to do so.”

*2. Classroom management issue (keeping students on task)*

“It’s easy to get distracted by different kinds of websites, songs, games and chatting software programs, hard to focus on what’s going on in class.” “Some students keep checking their emails or Facebook.” “A lot of people chat online during class, keep lots of applications open, watch videos and play games.”

*3. Hardware/software problems (time lost in class)*

“The students and the teachers always have to fix things that are broken/not working.” “There’s always a problem with technology in our classes.” “Never

enough machines work and if they work at the beginning then half way through class there's a problem (hardware, software, network)"

When students were asked, "How you feel in general about the use of computers/laptops in lessons?" two main themes were found to emerge:

*1. Frustration at the lack of choice and creativity given to students when using technology in lessons*

"If they were used in an interesting and creative way, they'd be great." "The way they are being used at the moment is boring. It's like they are checking a list of points and using IT is one of them." "If teachers were able to use it in a creative and interesting way it would be interesting for students." "When I use IT at home I'm doing a heap of interesting stuff, here its just boring."

*2. Accessible resource – lots of information available to students*

"I think it's a good tool for teachers and students – lots of information and lots of activities." "There is so much information and material out there, makes life easier."

And finally when asked 'What do you use your laptop for at home?' thematic analysis revealed four main themes:

*1. Looking for information to help with homework*

Finding information online for our reports, Searching for information for our homework (reports, essays, presentations), Looking for solutions to problems

*2. Creating artifacts*

Creating power point presentations, Producing reports, Uploading pictures on FB and other media, Uploading videos so others can see them, Playing around with music programmes.

*3. Social communication*

Facebook, Twitter, YouTube, Chatting to friends, online games

*4. Looking for information on things I'm interested in*

Looking for info on subjects I'm interested in, Finding out about cars & holidays,

Finding out about fashion, looking at the design of houses and interior design, Researching university subjects I want to study.

## **Discussion**

This study sought to investigate the experiences and opinions of students towards computer and laptop use in their lessons. The results suggest that computers/laptops are not being extensively used in classes and are instead being used more by students at home and for long periods of time per day for educational, social, creative and information driven activities. The portability of laptops has strengthened the notion of 'education' and 'learning' as being a lifelong that should be accessible 'anywhere' and at 'any time' (Fried, 2008). Moreover, with the advent of Web 2.0 technologies there is a conceptualization of the learner as no longer a passive 'consuming' recipient in the learning process

but also an active ‘producer’ of educational content that can reflect the negotiated understanding the learner has arrived at in both a personal and collaborative setting (Buckingham, 2007; Selwyn, 2011). The irony however appears to be that this ‘ideal’ form of educational practice is not happening within the classroom but is instead happening at home in the students own time, with students working individually or with others in a virtual sense and the absence of the teacher.

While students perceived working with computers/laptops as being beneficial, they were acutely aware of the lack of teachers’ knowledge in how to use these tools for teaching and learning purposes. This observation appears to shed light on the uncomfortable relationship teachers have with knowing that the technology when used in a pedagogically meaningful manner can be useful however due to a lack of suitable teaching strategies are not able to use it effectively in class (Espinosa & Chen, 2001; Mumtaz, 2000). The finding noted in the current study are similar to a previous study where it was found “In order to maximize the benefits of laptops in higher education, it may be necessary to develop meaningful laptops based activities and move away from the passive dissemination of knowledge” (Kay & Lauricella, 2010). Espinosa and Chen (2001) contend that all teachers can become technologically literate and that most can learn constructivist teaching practices. The difficulty, as demonstrated by this research, is how best to combine these two complex skills set in the context of a classroom (Sipila, 2010).

Students found computers/laptops in class as creating a number of classroom management issues for teachers to deal with. Similar findings have been observed in other studies that have noted the negative effect of laptops and computers on students learning, with students comments from this study highlighting that students appeared to spend more time multitasking on their laptops and were therefore distracted from the primary lesson itself (Hembrooke & Gay, 2003; Wurst et al., 2008).

### **Conclusion**

Understanding the research on subject of computer and laptop use in education often requires an understanding of the economics behind the grandiose claims made by computer manufacturers and beleaguered education policy makers whose conceptualization of ‘technology + education = an educational revolution’ (Buckingham, 2007; Selwyn, 2011). The impetus for educational reform has been driven by the perception that a digital literate population would be essential for future economic growth, as well as social and civic participation (Buckingham, 2007).

The findings of this research suggest that whilst technology is being used by students, the notions of its innovative use to engender creativity and greater opportunities for collaborative work are not occurring in formal classroom settings but outside of educational establishments. The insight that students



experiences and opinions of computer/laptop use is that they highlight that teachers and schools are ill equipped to utilize and maximize this technology due to the absence of pedagogically grounded teaching strategies (Sipila, 2010). Whilst the discrepancy between technology buy in, technology training, appropriate teaching strategies for lessons that use technology exists; technology will at best be used at a superficial level in classrooms which from a cost perspective to the education system is shocking and from a pedagogic one questionable.

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