EXPLORING THE USE OF E-PORTFOLIOS IN MADARES AL-GHAD SCHOOLS IN THE UNITED ARAB EMIRATES

A THESIS IN TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES

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By
FAIZA TABIB
B.A. 1994

American University of Sharjah
Sharjah, UAE
August 2011

We approve the thesis of Faiza Tabib

Date of signature

_____	_____
Dr. Betty Lanteigne Assistant Professor Thesis Advisor	
_____	_____
Dr. Peter Crompton Assistant Professor Graduate Committee	
_____	_____
Dr. David Prescott Associate Professor Graduate Committee	
_____	_____
Dr. Pia Anderson MA TESOL Program Director	
_____	_____
Dr. Mark Rush Dean of the College of Arts and Sciences	
_____	_____
Dr. Gautam Sen Vice Provost for Research and Graduate Studies	

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Faiza Mohamed Tabib, Candidate for the Master of Arts Degree
American University of Sharjah, 2011

ABSTRACT

The use of electronic portfolios (e-portfolios) is gaining widespread popularity around the world. Currently e-portfolios are very popular in higher and further education, particularly in North America and Britain. The relevant literature provides a wealth of information on the potential of e-portfolios and on the role of technology in enhancing reflective and lifelong learning and increasing students' engagement and motivation (see Barrett, 2006; Barrett, 2007; Butler, 2006; Stefani, Mason & Pegler, 2007; Kocoglu, 2008; Wang, 2009). However, a very limited number of studies have examined teachers' attitudes and perceptions regarding the adoption of e-portfolios in secondary schools.

In Madares Al-Ghad (MAG) schools in the United Arab Emirates (UAE), developing paper-based portfolios is a curriculum requirement. The language portfolio is added to at each grade level (grades 10, 11, and 12 in high schools). It is an archive, which is comprehensive in nature, accumulating students' work over three years of instruction. Although portfolios were originally paper-based, many students in MAG schools are already using a number of technology devices to present their portfolios. Since most students have prior knowledge of computer technologies, and are familiar with Web 2.0 tools, there is a possibility that implementing e-portfolios may enrich students' learning, increase their engagement, and make their learning more enjoyable. Additionally, using e-portfolios in place of paper-based portfolios can encourage the use of the digital environment available in MAG classrooms. However, as reported in the literature about e-portfolios, a successful move from paper-based portfolios to e-portfolios depends, to some extent, on teachers.

Therefore, the purpose of this study was to investigate MAG teachers' views of e-portfolios. It sought to find, first, whether e-portfolios would be any different from paper-based portfolios in terms of concept, educational purposes, and learning

opportunities, from MAG teachers' perspectives. Second, the study aimed to investigate MAG teachers' personal views regarding the benefits of, challenges to, and future possibilities of e-portfolios. Finally, the study also aimed to understand MAG teachers' personal beliefs about the feasibility of incorporating e-portfolios in their classrooms. Teachers' views can help indicate the likelihood of e-portfolio success or failure in their schools.

Teachers from six schools in three different educational zones in the UAE participated in this study. Forty-three MAG teachers were surveyed, ten teachers were interviewed individually and four Emirati female teachers joined a separate Emirati group interview. In addition, ten MAG teachers joined a focus group discussion with the researcher.

Findings of this study indicated that for the participating teachers in this research, learning was the major purpose of e-portfolios. Learning for these teachers was rather related to learning technology skills and applications. These teachers appreciated some of the benefits of e-portfolios for their students, mainly the digital documentation of students' achievement over time, the use of multimedia, electronic storage of artifacts, and the possibility of improving students' ICT skills. The participating teachers had also some concerns about e-portfolios, mainly lack of sufficient time to learn the software and to support students with their e-portfolios. Other concerns were lack of adequate ICT training for teachers and students. Slightly less than half of all the participants felt they were willing to learn about e-portfolios but they would not use them in the future in their classrooms due mainly to time constraints and privacy and security issues. Overall, findings of this study revealed that 13 participants thought e-portfolio implementation was feasible, 10 participants thought it was conditionally feasible, and 18 participants thought it was not feasible.

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ACKNOWLEDGEMENTS

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DEDICATION

To my my daughters, Enas and Sarah, with love.

CHAPTER ONE
INTRODUCTION

Language portfolios are purposeful collections of students' work that provide students with the opportunity to reflect on their accomplishments and strengths. Such portfolios enable students to demonstrate their achievements and to collect evidence of their overall success in each of the four areas of language development: listening, reading, speaking, and writing. Language portfolios have become very popular learning tools in many educational institutions. In Madares Al-Ghad (MAG) schools in the United Arab Emirates (UAE), language learners develop language portfolios to improve their overall skills and knowledge. The MAG team assumes that if portfolios are done properly, students' learning becomes more meaningful. The MAG language portfolio is added to at each grade level (grades 10, 11, and 12). It is an archive, which is comprehensive in nature, accumulating students' work over three years of instruction. The assignments, tasks, self-reflections, awards, activities, compositions, projects, and assessments in English can be used to record students' academic achievement. Students must develop their portfolios under their teachers' guidance and assistance. Once they graduate from high school, students will keep their own portfolios as evidence of their proficiency levels and a record of their achievements.

Context

MAG schools, the context of this study, were initially Emirati government schools that embraced an innovative program, Madares Al-Ghad, in 2005. The Madares Al-Ghad program, or "Schools of the Future," aims to create an educational system that stands as a model for the country and the Gulf region. According to Truscott (2010, p. 1), the goals of the MAG program are threefold:

1. Create a world-class educational system consisting of effective schools,
2. Increase the capacity of UAE educators to create and sustain a learner-centered environment,
3. Increase language proficiency of grade 12 graduates to make direct entry into higher education, the work world, and active citizenship possible.

Since its foundation, the MAG program has implemented professional development programs for Emirati teachers and school administrators so that Emiratis may take increasing responsibility for leading their educational institutions in the

future. There are 44 MAG schools in the UAE. Working in cooperation with the UAE Ministry of Education (MOE), 16 of them are Cycle 3 (secondary) schools, 13 are Cycle 2 or Intermediate (grades 6, 7, 8 and 9), and 15 are Cycle 1 or primary schools (grades 1, 2 and 3).

Almost all students in MAG schools are Emiratis, while the teaching staff encompasses a majority of Emiratis and a minority of native-English-speaking and non-native-English-speaking expatriates. MAG teachers feel valued, have a voice, take responsibility, and are more accountable than other teachers in UAE government schools. These teachers, as Truscott (2010) notes, are encouraged by Teacher Development Specialists (TDS) to sustain a student-centered learning environment where students are encouraged to think critically and analytically and to value their identity, their local cultures and norms.

Teacher Development Specialists (TDS) support MAG teachers and develop them through team teaching/co-teaching or demonstration teaching. The TDS also provides teachers with support pertinent to classroom instruction, assessment, and differentiated instruction. They also support school-wide reform. In a word, MAG teachers are expected to use a variety of teaching resources, authentic materials, authentic assessments, and educational technology while sustaining cultural sensitivity and local Emirati norms.

Statement of the Problem

Although MAG portfolios were originally paper-based, many students in MAG schools are already using a number of technology devices to present their portfolios. Since most students have prior knowledge of computer technologies and are familiar with Web 2.0 tools, there is a possibility that implementing e-portfolios may enrich students' learning, increase their engagement, and make their learning more enjoyable. Additionally, using e-portfolios in place of paper-based portfolios can encourage the use of the digital environment available in MAG classrooms.

However, as reported in the literature about e-portfolios, a successful move from paper-based portfolios to e-portfolios depends, to some extent, on teachers. Barrett (2006) believes the teacher's role is extremely important for the success of e-portfolio integration. Her view is also held by Sugar, Crawley, and Fine (2004), who point out that "teachers must be convinced of the feasibility of using a particular technology before adoption and integration occur" (p. 201). Therefore, if the success

of e-portfolio implementation at least partially rests on teachers, they should be involved in the implementation of any innovation in their classrooms. Teachers should decide whether using e-portfolios is the best way to support and enhance students' learning.

Therefore, the purpose of this study is to investigate MAG teachers' views of e-portfolios. It seeks to find, first, whether e-portfolios would be any different from paper-based portfolios in terms of concept, educational purposes, and learning opportunities, from MAG teachers' perspectives. Second, the study aims to investigate MAG teachers' personal views regarding the benefits of, challenges to, and future possibilities of e-portfolios. Finally, the study also aims to understand MAG teachers' personal beliefs about the feasibility of incorporating e-portfolios in their classrooms. Teachers' views would help indicate the likelihood of e-portfolio success or failure in their schools. As pointed out by Roberts et al. (2005), "teachers are key players in the implementation process" (p. 8).

To summarize, the present study sought to answer the following questions from the perspective of the participating teachers in six MAG schools in the UAE:

1. What does technology add that the hard copy version of the portfolio does not provide?
2. What are the benefits of, challenges to, or barriers against e-portfolio implementation?
3. To what extent is e-portfolio integration feasible?

Roles of the Researcher

As the researcher, I administered a questionnaire, conducted individual and group interviews, gave a presentation to a group of teachers and led focus group discussions with the presentation participants. In the process of data collection and analysis, I was a researcher, colleague, and teacher trainer. As a researcher, I administered the questionnaire and was also an observer, a listener, and an active participant in the focus group discussions. I interacted with the participating teachers as a colleague because I am a MAG teacher and a Teacher Development Specialist (TDS) in a MAG school. When I gave the presentation in my school, I was a teacher trainer who was able to inform users and non-users of e-portfolios about the potential of e-portfolios in K-12 classrooms in general, as well as the possible challenges of their implementation.

Overview of the Chapters

Chapter 1 sheds light on the problem discussed in this study, and highlights the three research questions that drive this research. It also provides an overview of the five chapters included in this study.

Chapter 2 is a review of the literature about e-portfolios. First, it introduces Web 2.0 tools and briefly reviews benefits and concerns about Web 2.0 tools. Then, it examines e-portfolios in terms of benefits, barriers to implementation, and future possibilities.

Chapter 3 is about the methodology of this study. It describes the instruments used to investigate the topic of this study and provides a demographic description of the participants. In addition, it explains how the data was collected.

Chapter 4 is concerned with data analysis. A reiterative approach is used to simultaneously analyze and report the findings of this study. Further analysis compares data with data to get new insights into the topic in discussion, followed by a summary.

Chapter 5 briefly reviews the results of this study. The implications and limitations of this study are reviewed. The chapter concludes with directions for further research.

CHAPTER TWO
REVIEW OF THE LITERATURE

With the advent of information and communication technology, Web 2.0 has become very popular among a large number of internet users. Blees and Rittberger (2009) point out that "Web 2.0 means a qualitative leap in Web technologies that have made the internet more creative, participative and socializing" (p. 1). According to Blees and Rittberger, one of the major reasons for the growth in its use is the move in "contemporary learning towards more activity, self productivity and self governing, to networking learners and their learning spaces" (p. 3). Ullrich et al. (2008) point out that the developments in the field of technology "are in line with modern educational theories such as constructivism and connectionism and thus make Web 2.0 applications very attractive for teachers and learners" (p. 706).

A number of studies about Web 2.0 (Anderson, 2007; Bower, Hedberg, &Kuswara, 2009; Gray et al., 2009; Liao, Chang, Chen, & Chan, 2009; Redecker, Ala-Mutka, Bacigalupo, Ferrari, & Punie, 2009) draw our attention to the values added by Web 2.0 technologies and social networks to education. Therefore, this section seeks to cast light on the benefits of Web 2.0 and pinpoint the possible obstacles to Web 2.0 implementation and usage.

Web 2.0: Definitions

Anderson (2007) defines Web 2.0 as "a group of technologies which have become deeply associated with the term: blogs, wikis, podcasts, RSS feeds, etc., which facilitate a more socially connected Web where everyone is able to add to and edit the information space" (p. 5). For Ullrich et al. (2008), "the term 'Web 2.0' is used to describe applications that distinguish themselves from previous generations of software by a number of principles" (p. 706). Gray et al. (2009) note that there is a growing list of Web 2.0features which include "freestanding services such as CiteULike, Edublogs, Serious Games and TeacherTube, and tools that are bundled in newer versions of university learning management systems such as Blackboard and Moodle" (p. 7).

Bower et al. (2009) point out that reaching consensus over what the term *Web 2.0* means is very difficult; however, they believe what Web 2.0 incorporates is far more important than what its label means. They explain that Web 2.0 is associated

with a number of projects and practices, such as social software programs where multiple users can collaborate with one another and contribute to the authorship of content, blog posts, text-chats, video clips, in addition to having sophisticated interfaces.

O'Reilly (2007) draws a comparison between Web 1.0 and Web 2.0. He finds that the new applications are more interactive and more engaging. O'Reilly explains that Web 2.0, for example, has developed *Wikipedia* web pages as an alternative to *Britannica Online.* A further example is that with Web 2.0, internet users can blog instead of working on personal websites. Another example provided by O'Reilley is that Web 2.0 has developed *Wikis* as an alternative to *Content Management Systems,* and *Tagging* has replaced *Directories* (Taxonomy).

As evident, Web 2.0 technologies facilitate connection and interactivity and are more engaging to internet users.

Benefits of Web 2.0 Technologies for Learning

The literature about Web 2.0 (see Blees & Rittberger, 2009; Gray et al., 2009; Liao et al., 2009; Redecker et al., 2009; Scharle & Szabo, 2000; and Ullrich et al., 2008) highlights the potential benefits of Web 2.0 tools and applications in education. One of the themes discussed by these researchers is, first, the difference between Web 1.0 and Web 2.0, with a focus on the add-on values of Web 2.0 tools such as…. A second theme revealed in the literature about Web 2.0, is the role of Web 2.0 in fostering student-centered learning, increasing lifelong learning and motivation, and increasing information and technology skills.

According to Liao et al. (2009), "Web 2.0 becomes more advanced and user-centered instead of tool-centered" (p. 995). They believe Web 1.0 is static and content-centered, while Web 2.0 tools are more interactive and more engaging. Liao et al. (2009) find that Web 2.0 tools enable consumers to create content, learn from each other, and collaborate interactively with each other. In this regard, Sendal, Ceccucci, and Peslak (2008) find that Web 1.0 differs from Web 2.0 in terms of "greater user participation in developing and managing content, which changes the nature and value of the information" (p. 3).

Regarding the added benefits of Web 2.0 for learning, Liao et al. (2009) believe that the implementation of Web 2.0 tools increases students' learning and motivation, enhances lifelong learning, and widens students' knowledge. They

suggest that Web 2.0 users can upload information or expand on existing information. By doing so, Web 2.0 tools help promote lifelong learning. Liao et al. think that "if a few people have left schools and pursue further education; they have opportunities to learn and acquire new knowledge by Internet platform" (p. 997).

In addition to the possibility of uploading and adding to information, Ullrich et al. (2008) find that "Web 2.0 applications and services allow publishing and storing of textual information, by individuals (blogs) and collectively (wikis), of audio recordings (podcasts), of video material (vidcasts), of pictures" (p. 706). They note that "Web 2.0 services typically put much effort in usability and aim at simplifying the interactions as much as possible by concentrating on the task or service the application provides" (p. 706). Gray et al. (2009) ascertain that "Web 2.0 content is open to all participants to create or manipulate…by commenting, editing, mashing, rating and tagging" (p. 6). It is clear that Web 2.0 promotes interactivity and sharing among internet users and allow for editing and commenting.

For Redecker et al. (2009), Web 2.0 tools are versatile. Versatility is important because it allows both teachers and learners to benefit from the various features offered by Web 2.0 tools and applications, such as the possibility of interacting and editing comments. Also, these Web 2.0 tools can be used to promote and enhance the teaching/learning processes that encourage interaction, personalization, real communication, sharing and collaboration. They note that Web 2.0 tools enhance learning by

> supplying more engaging (multimedia) learning environments; by supporting personalised ways of retrieving, managing and transforming information; by equipping learners and teachers with a variety of adaptable tools; and by integrating students into collaborative networks that facilitate the joint production of content and offer peer support and assistance. (p. 9)

The Role of the Teacher with Web 2.0

Some of the literature about Web 2.0 (Gonzalez & Louis, n.d.; Redecker et al. 2009) points to the role of Web 2.0 in altering teachers' traditional roles, and in providing them with the possibility of developing useful materials via Web 2.0 user-friendly tools. In their definition of the teachers' new roles in fostering learner autonomy, Scharle and Szabo (2000) point out, "Developing responsible attitudes in the learner entails some deviation from traditional teacher roles…the teacher needs to

take on the role of the facilitator or counselor in an increasing number (and type) of classroom situations" (p. 5). This echoes the view of Redecker et al. (2009), who note that in the era of Web 2.0 "teachers become designers, coordinators, moderators, mediators and mentors" (p. 9), while students become more responsible for their own learning, and "jointly create the learning content and context" (p. 9). Redecker et al. point out that the implementation of any Web 2.0 tool requires "a change in the role of teachers, who have to act as guides and mentors, enabling and facilitating self-regulated learning processes" (p. 12).

Gonzalez and Louis (n.d.) point out that Web 2.0 tools are extremely useful for teachers in terms of materials development. They note that:

- Since most Web 2.0 tools are Web-based, teachers do not need to have a server to host their resources.
- These tools are user-friendly and most offer video tutorials; so, teachers can create their own material without waiting for the school instructional designer to first understand their ideas and finally convert them into a product.
- Most of these tools can be edited from any computer connected to the Internet.
- Teachers can add, edit and delete information even during class time.
- There are plenty of free Web tools to create the resources needed for almost every activity, at any level of instruction.
- Ready-made materials that can be adapted or adopted for specific contexts are also available online. (p. 30)

The Challenges of Web 2.0 in Education

Effective implementation and usage of Web 2.0 may be hindered by lack of training programs for teachers to help them assume their new roles (Redecker et al., 2009). The issues of students' privacy, identity, trust, and reputation may impair successful implementation and usage of Web 2.0 if they are not taken into account. In this respect, Redecker et al. note:

> There are particular risks associated with the uncritical use of social networking services by adolescents and young adults in connection with self-destructive behavior, cyber-bullying and online grooming. Educators need to

> make sure that the identities of their learners are protected; that rules of conduct are implemented and adhered to; and that intellectual property rights are respected. (p. 12)

Clearly, Web 2.0 tools enhance collaboration, interaction, and real communication. They also allow editing, uploading and expanding information, and publishing. However, as pointed out by Redecker et al. (2009), some measures need to be taken to implement and use these dynamic Web pages effectively to enhance learning. Redecker et al. suggest that "a joint vision for Learning 2.0 could promote take up and guide stakeholders, advising them on how to reap the benefits of social computing for learning; …and how to address safety, security and privacy concerns" (pp. 12-13). It is clear that Web 2.0 has educational potential but there are also potential risks that need to be addressed, such as the issues of privacy and security in order to benefit from these applications in education.

The next section defines e-portfolios, and discusses the potential benefits and challenges of e-portfolios in education.

What Is an Electronic Portfolio?

The literature about e-portfolios reveals growth in use of e-portfolios in education. Meeus, Questier, and Derks (2006) provide two reasons for this increase. They note that one factor for e-portfolio popularity is "the rise of constructivism, a pedagogical school of thought which emphasizes learning by experience and self-discovery… [and] a second factor is the rise of information and communication technology" (p. 134). According to Fielder, Mullen, and Finnegan (2009, p. 100), "electronic portfolios have become increasingly practical as student access to computers has improved and more student work has been submitted digitally." Stefani, Mason, and Pegler (2007) relate the growth in use of e-portfolios to "the increased emphasis on reflective lifelong learning" (p. 3). Initially, the main purpose of creating e-portfolios, as noted by Barrett (2010), is to encourage students to reflect on their work and to track their own progress over time. Richardson and Ward (2005) also highlight the role of e-portfolios in fostering lifelong learning. They note

> Recent development in e-learning technologies and a change of emphasis, from a focus on learning sectors towards learners themselves, have provided an impetus to generate a more joined-up approach to learner support, and therefore to create e-portfolio products with the potential to support the lifelong learner. (p. 7)

Clearly, the use of e-portfolios promotes reflective and lifelong learning. By keeping their final products in e-portfolios, students can track their growth in different stages of their lives. Therefore, there is an increase in use of e-portfolios, and apparently, research about e-portfolios supports their educational potential. But what is an e-portfolio? How does this electronic phenomenon function? What does technology add that the hard copy version of the portfolio does not provide? What are the potential benefits of e-portfolios, and what might be the challenges or barriers to their implementation?

This next section discusses the main features of e-portfolios, with a focus on benefits, challenges and future possibilities.

E-Portfolios: Definitions

According to Wiedmer (1998), e-portfolios started in the 1990s when "a team from the Annenberg Institute for School Reform and the Coalition of Essential Schools, with the support of IBM, studied the development of digital student portfolios"(p. 1). Wiedmer defines the digital portfolio or e-portfolio as "a purposeful collection of work, captured by electronic means, that serves as an exhibit of individual efforts, progress, and achievements in one or more areas" (p. 1).

Barrett (2007) notes that another definition for an e-portfolio, as stated by The National Learning Infrastructure Initiative, is that it includes "a collection of authentic and diverse evidence, drawn from a larger archive representing what a person or organization has learned over time" (p. 438). An e-portfolio is, therefore, a collection of purposeful artifacts that reflect students' learning journey and academic growth over time. Aided by technology, students can store their work digitally, using additional features that allow them to go beyond paper-based portfolios. Regarding the organization and structure of an e-portfolio, Heinrich, Bhattacharya, and Rayed (2007) note that

> An e-portfolio typically starts with an opening page that introduces the author and the purpose. From the opening page, links lead to various parts of the portfolio. Different organizational structures, for example according to subject areas or learning situations, are possible. The portfolio author should guide the reader through the portfolio material with careful selection of structure and links, attractive visual elements and thoughtful descriptions. (p. 655)

It is clear that e-portfolios allow the collection, organization and display of students' work. Students, as noted by Heinrich et al. (2007), should guide the reader to the content of their e-portfolios.

Paper-Based vs. Electronic Portfolios

One of the debatable issues reflected in the literature about e-portfolios is whether an e-portfolio is the same as the traditional paper-and-pencil portfolio (p-portfolio) in terms of concept, purpose, targeted audience, and learning outcomes. Al Kahtan (1999) believes that an e-portfolio is very similar to "the traditional portfolio that consists of paper and folders; however, the medium this portfolio uses is different" (p. 262). Gibson and Barrett (2002, p. 556) observe that traditional portfolios or paper-based portfolios "were assembled from collections of work stored in boxes or three-ring binders." In 2006, Butler stated that an e-portfolio "is essentially an electronic version of a paper-based portfolio, created in a computer environment, and incorporating not just text, but graphic, audio and video material as well" (p. 10). She also argues that there is probably "some technology change, but not a conceptual change, from paper portfolios" (p. 12).

However, Steele (2009) notes that "a comparative description of the two types of portfolios is necessary to clearly depict the similarities, the differences and the additional issues required to implement either system" (p. 3). Lane (2007) points out "the 'e' in e-portfolio makes a powerful statement. It divides the electronic portfolio from its paper counterpart, and in that separation it unlocks new opportunities for teaching and learning" (p. 1). According to Stefani et al. (2007), there are three main differences between paper-based and e-portfolios:

- With a digital portfolio, it is easy to rearrange, edit and combine materials. Students can determine an order of storage, they can make modifications on a regular basis to suit their needs and the expectations and requirements of different audiences.
- The e-portfolio is a connected document; the student can use hyper-linking to connect documents together, linking between the portfolio elements and also to external sources and references.
- There is portability to the e-portfolio which does not exist without the electronic form… the e-portfolio can be accessed and used in a variety of

locations and can be replicated and shared with others. It is portable and mobile. (p. 17)

Barrett (2007) highlights the differences between e-portfolios and paper-based portfolios. She argues that traditional paper-based portfolios allow collecting, selecting, reflecting, projecting, and celebrating. As for the e-portfolio, she says that technology allows these features as well as enhancement through archiving, linking, story telling, collaborating, and publishing. Barrett highlights the main purposes of integrating e-portfolios in education, noting that by developing e-portfolios, a number of skills are developed, such as writing, presentations, digital story telling, multimedia and Web page authoring skills, and design skills.

It is clear that the purposes for creating e-portfolios are the same (Al Kahtan, 1999; Butler, 2006), but the use of technology allows some change. This change includes ease of use, portability, instant editing, electronic storage of artifacts and materials, and the use of hyperlinks (Barrett, 2007; Stefani et al., 2007). In addition, technology opens new opportunities for teaching and learning (Lane 2007) and allows enhancement and development of both language and technology skills (Barrett, 2007).

Types of E-portfolios

The literature about e-portfolios reveals that there is a vast array of technology devices, applications and software programs that can be used to build e-portfolios. These options vary from simple, non-profitable (non-commercial) technology devices, such as PowerPoint slides, CDs, homepages, etc., to more complex, commercial e-portfolio systems.

Commercial E-Portfolio Systems

Stefani et al. (2007) point out that there are four categories of e-portfolio systems in use: "Commercial software, proprietary systems, open source e-portfolio software, and open source common tools" (p. 119). They report that many institutions prefer to "purchase commercial system from a recognized vendor," while many other institutions prefer to build their own software (proprietary systems) which will allow "online submission of assignments and recording of grades and degrees" (p. 121). Stefani et al. define the open source portfolio initiative, which is the third category, as the collaborative work of individuals and groups of people who design e-portfolio software, which is not privately owned by a single individual or a private organization. The last category of e-portfolio software system is known as open

source common tools. This kind of system is not designed specifically to build portfolios. It is a flexible and adaptable application that can be developed by creative users. As an example, Stefani et al. mention that "an institution might decide to use HTML editors such as Microsoft Front page or Macromedia Dreamweaver to support the development of e-portfolios" (p. 120).

Non-Commercial E-Portfolios

Al Kahtan (1999) suggests non-commercial e-portfolios "can be print-based, saved on a computer disk, compiled on a CD-ROM or Web homepage, or a combination of the above" (p. 262).He also finds that an e-portfolio uses a combination of electronic media such as hypermedia programs, databases, spreadsheets, and word processing software, as well as CD-ROMS and the Web. Roberts et al. (2005) note that e-portfolios "might be web-based or they might stand alone on a user's PC" (p. 6).

Key Criteria for Selecting Appropriate E-Portfolios

Regardless of what e-portfolio systems or software programs teachers will decide to use to help students create their e-portfolios, it is important for teachers to know which of these system and/or software programs are most appropriate for their students and what these systems or software programs can offer to increase students' learning and motivation.

In this regard, Barrett (2000) suggests seven generic software programs for creating e-portfolios, noting that the selection of any software depends on a number of key criteria, such as the software capacity to allow hyperlinking, storage of artifacts displayed in multimedia format, and web accessibility. Another key criterion, suggested by Barrett, is whether the software chosen fits the intended audience or not. The following are Barrett's (2000) suggestions regarding the seven software services:

- *Relational Databases* (e.g., FileMaker Pro, Microsoft Access).
  Include flexibility, network and Web capabilities, cross-platform capabilities, tracking and reporting, multimedia, and security. They require a high level of skill to use effectively. (p.11)
- *Hypermedia "Card" Programs* (e.g., HyperStudio, Digital Chisel, Toolbook, and SuperLink). A hypermedia program allows the integration of various media types in a single file, with construction tools for graphics, sound, and

movies. They are most appropriate for elementary or middle school portfolios. (p. 11)

- *Multimedia Authoring Software* (e.g., Macromedia Director or Authorware). These programs were designed to incorporate multimedia elements. They are ideal for CD-ROM publishing, but they have a steep learning curve, they require extra effort to link artifacts to standards, and may not offer the necessary security. They would be most appropriate for high school, college, or professional portfolio creation. (p. 11)
- *Web Pages* (e.g., Adobe PageMill, Claris Home Page, Microsoft FrontPage, Netscape Composer). Students in upper-elementary grades and beyond can create Web pages, but this type of portfolio is especially appropriate for those who wish to showcase their portfolio for a potential employer. (p.12)
- *PDF Documents* (Adobe Acrobat). PDF files are easy to access and read, can be created from multiple applications, include multimedia elements, are easily published to CD-ROM, have few size and resolution constraints, and are secure. They area more appropriate tool for high school and older students. (p.12)
- *Multimedia Slideshows* (e.g., AppleWorks and PowerPoint). Most of these tools allow the integration of sound and video, and Microsoft PowerPoint allows some buttons and links. Web publishing requires conversion to HTML; password protection may not be available. Multimedia slideshows are most appropriate for middle school and older students. (p.13)
- *Video (digital and analog).*

  Analog video can be used to gather evidence of student learning in a low-cost storage medium, and digital video adds Web accessibility, high interactivity, random access, and easy editing. Video is the best way to capture classroom interaction, including nonverbal cues, and it is often the method by which final portfolios are shared. (p. 13)

As is evident, prior to purchasing e-portfolio systems or software programs for creating e-portfolios in K-12 classrooms, it is important for schools to evaluate the appropriateness of these systems for high school students.

The next section investigates the potential benefits, possible barriers, and future possibilities of implementing e-portfolios in K-12 classrooms.

Potential Benefits of E-Portfolios

Digital Enhancement

The e-version of portfolios provides learners with opportunities to increase creativity, information exchange (Butler, 2006) and technology literacy skills, by documenting and storing student work, and by allowing the exchange of information (Lorenzo & Ittelson, 2005). Dibiase et al. (2002) point out that "Such skills contribute to students' ability to use information technologies effectively throughout their academic careers and beyond" (p. 9). Some of the technology skills required, as noted by Dibiase et al. include the ability to save documents in digital formats, edit texts, capture images, upload digital files to Web servers.

E-portfolios facilitate storage of many professional documents, increase accessibility (Kocoglu, 2008), organization and information transfer (Butler, 2006). E-portfolios, as noted by Butler,

- are easier to search, and records can be simply retrieved, manipulated, refined and reorganized;
- reduce effort and time;
- are more comprehensive and rigorous;
- can use more extensive material;
- include pictures, sound, animation, graphic design and video;
- are cost effective to distribute;
- are instantly accessible;
- can have an organizational structure that is not linear or hierarchical;
- are easy to carry and share with peers, supervisors, parents, employers and others;
- allow fast feedback;
- showcase the technological skills of the creator. (p. 12)

As Butler (2006) points out, e-portfolios offer a vast range of options and facilities such as the possibility of including pictures, sounds, and movies, in addition to accessibility, portability, fast feedback, and ICT skills' display. On the same basis, Ritzhaupt, Singh, and Seyferth (2008) find that "e-portfolios make the students' work 'accessible,' 'reviewable and re-playable' and address students' ownership and storage issues" (p. 49). Ritzhaupt et al. point out that e-portfolios enable students to "save

their work in various multimedia formats such as video, audio, graphics, text and they can use hyperlinks for organization and navigation" (p. 49).

In addition, the e-version of portfolios enhances students' presentations via the communication tools available (Lane, 2007). These tools can support and increase interactivity between the e-portfolio holder and the e-portfolio reader (Currant et al., 2006). Because of the various digital features and applications that technology offers, Currant et al. (2006) note that "e-portfolios can be multimedia in nature allowing for different learning styles to be catered for and leading to much greater audience interactivity"(p. 2).

As it is evident, e-portfolios are beneficial because they offer learning opportunities that address various learning styles. Also, e-portfolios provide learners with opportunities to increase technology literacy skills, by documenting and storing student work in digital formats, by editing texts, capturing images, uploading digital files to Web servers, and by allowing the exchange of information.

Reflection and Lifelong Learning

Many researchers highlight the significant role of e-portfolios in fostering students' reflective lifelong learning. E-portfolios "support reflection that can help students understand their own learning and provide a richer picture of student work to document growth over time" (Barrett, 2007, p. 438). In this regard, Barrett (2010) notes, "The real value of an e-portfolio is in the reflection and learning that is documented therein, not just the collection of work" (p. 6).

E-portfolios also increase students' critical thinking skills, as they "foster student learning and professional development by supporting complex thinking and creativity required in their construction" (Butler, 2006, p. 58). As Butler notes, "e-portfolios facilitate the exchange of ideas and allow quick and regular feedback" (p. 11). Thus, this feedback promotes critical thinking among the learners, who are likely to benefit from their teachers' and their peers' comments.

E-portfolios allow students to not only use digital features for display of their work, but also enable students to record their growth over time, identify their learning outcomes, and track their own progress. In this respect, Yancey and Hunt (2009) point out, "e-portfolios have provided a new, continuing mechanism both for documenting specific practices and student accomplishments and the effects of these activities have on learning outcomes" (p. 28).

In the process of e-portfolio development, students become more responsible for their own learning. Thus, e-portfolios become student-centered, competence-oriented, and multimedia-oriented (Ritzhaupt et al., 2008). For Lane (2007), e-portfolios are versatile, as they allow learners to "[reflect] on their transition to the university, to document progress towards learning outcomes, and to showcase professional skills" (p. 5). Roberts et al. (2005) agree with this assertion, and note that for many educational institutions of higher education (mainly English, Dutch, and Irish), e-portfolios foster academic maturity. For these institutions, as reported by Roberts et al., e-portfolios foster lifelong learning, increase learner autonomy and self-direction, and stimulate reflection and deep learning.

Regarding the use of e-portfolios in students' career development, Dibiase et al. (2002) point out "the e-portfolio development process provides students with opportunities to reconsider career goals in light of their own reflections and others' responses and to revise their goals proactively" (p. 9). Dibiase et al. also explain that e-portfolios provide the students with the opportunity "to share authentic examples of their academic work and co-curricular activities with potential employers, family members, and other stakeholders" (p. 9). An additional benefit of an e-portfolio, as noted by Barrett (2001) is the possibility of saving time and paper. Barrett points out, "Many documents placed in a traditional portfolio are initially created with a computer, and then printed to paper" (p. 6).

Developing E-Portfolios in K-12 Classrooms

Developing an e-portfolio is a back and forth process that engages the learner in a number of stages. Roberts et al. (2005) point out that these stages include mainly orientation, selection, reflection, and representation. Roberts et al. note that after selecting the artifacts, students move to the stage of reflecting upon them and finally displaying their work.

This view confirms Barrett's (2010) categorization of the different stages of e-portfolio development in K-12 classrooms. However, Barrett highlights the role of the teacher during that process of e-portfolio development as being paramount. Barrett explains that the process of e-portfolio development occurs in three stages or levels: collection of artifacts, chronological organization of these artifacts, reflection and assessment. The teacher's role is vital in the second and third levels of e-portfolio

development. It is during these stages that teachers provide their students with constructive feedback and assess their work.

As shown in Figure 1, during the first stage of e-portfolio development, learners collect their artifacts, such as digital images, PDF documents, digital audio files, and iPhotobooks.

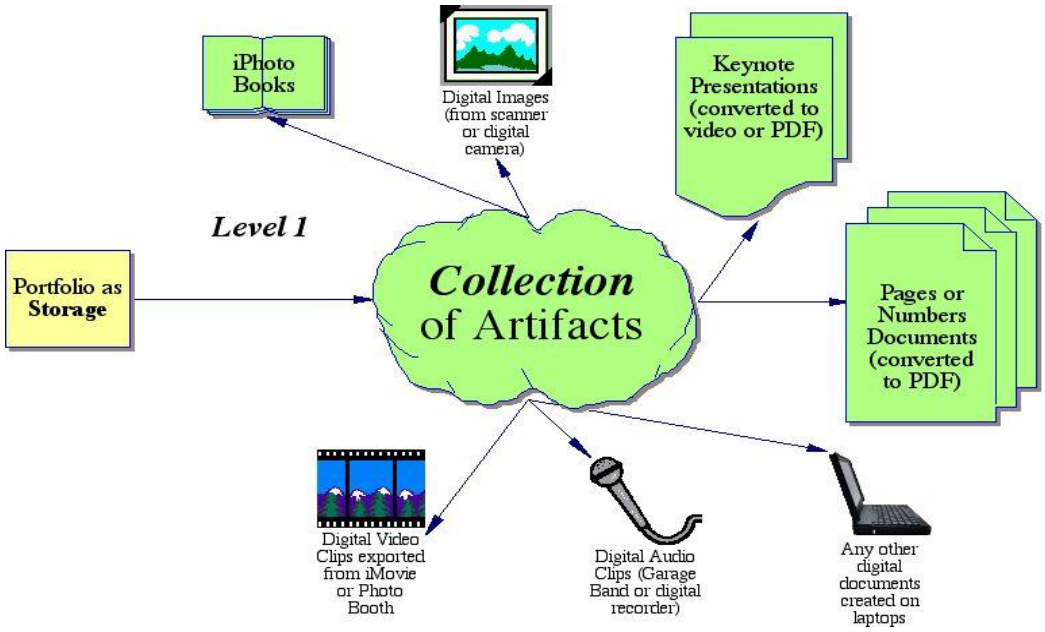

Figure 1: Collection of Artifacts (Barrett, 2010, p. 9).

The second level is a process wherein artifacts are organized chronologically. As illustrated in Figure 2, after collecting the artifacts, the process of organizing the work chronologically begins. At this stage, teachers can provide students with feedback as well as conduct formative assessments, or assessments for learning.

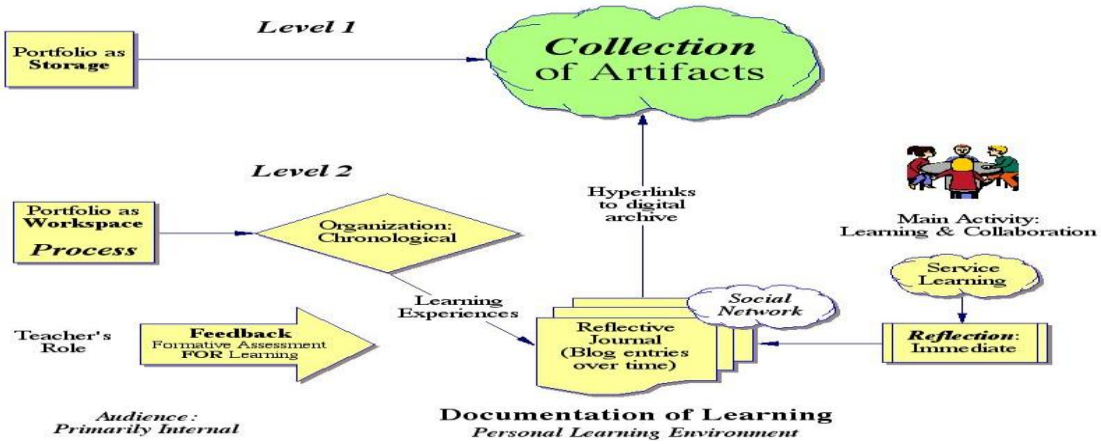

Figure 2: E-Portfolio as a Workspace (Barrett, 2010, p. 10)

The third level involves the teacher whose role is to give feedback. Thus, this level is where the assessment of learning takes place. This stage allows students to present their work, and to reflect on it.

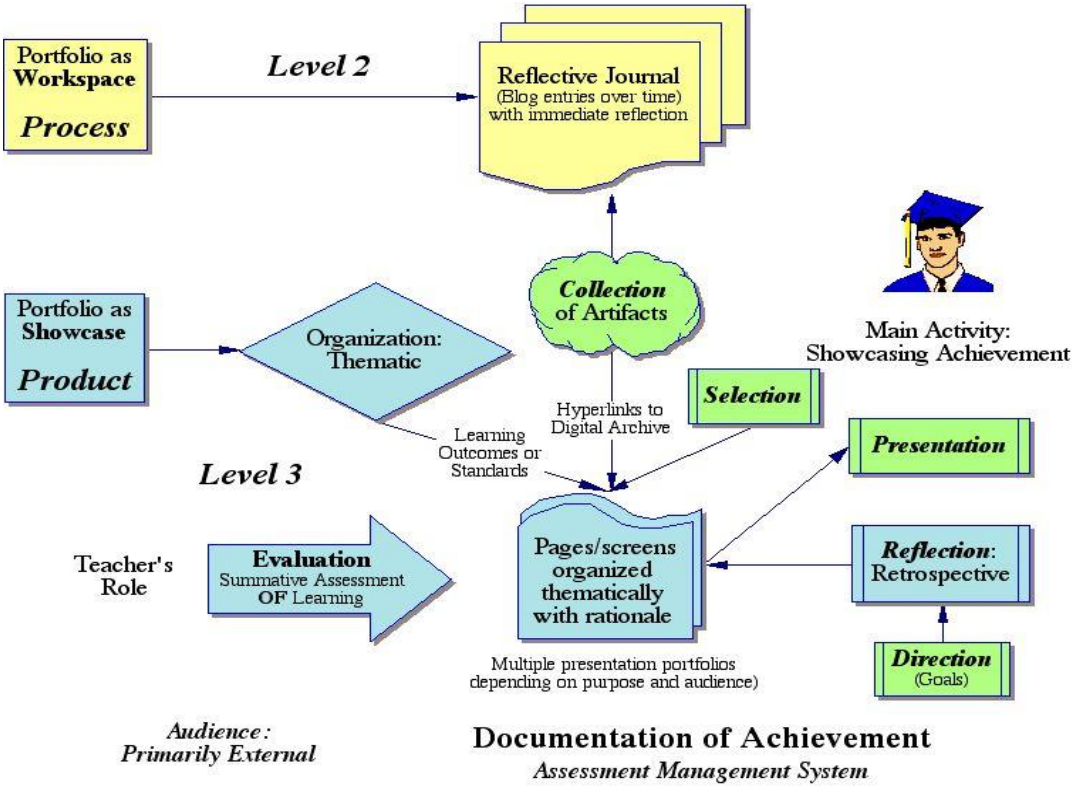

Figure 3: E-Portfolio as Showcase /Product (Barrett, 2010, p. 10)

In 2011, Barrett pointed out, "Most of the customized e-portfolio tools, both commercial and open source, have been created in and for higher education, whereas the paper-based portfolio process itself began in K-12 schools" (p. 9). Barrett updated her initial data about e-portfolio development in K-12 classrooms, and came up with a new model where she incorporated Web 2.0 tools in the process of e-portfolio development, and suggested three levels of e-portfolio development "designed to adapt to both technology competencies as well as academic levels" (p. 9).

As Figure 4 below indicates, the first level of e-portfolio development is concerned with the documentation of student's work. At this level, students can use Google Docs to store their artifacts. They can also use a number of Web 2.0 tools to store and collect video clips, digital audio clips, and digital images. It is at this stage that the digital archiving takes place. The role of the teacher at this level, as Barrett notes, is to provide guidance and support to their students on collecting and saving the appropriate artifacts.

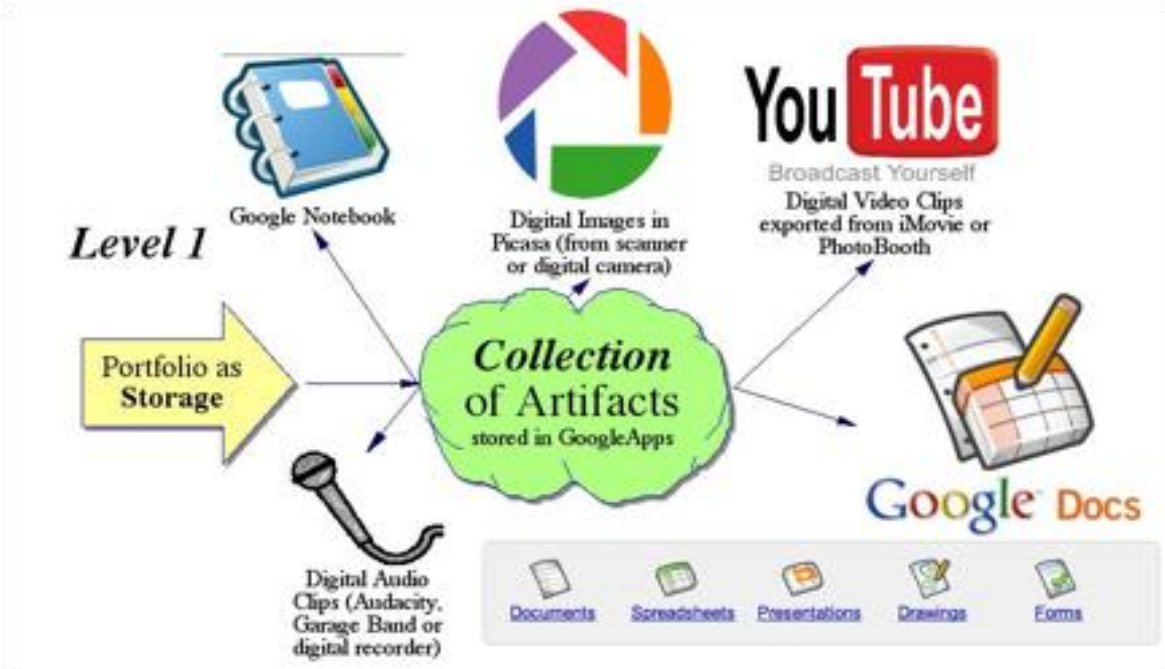

Figure 4: Collection and Storage (Barrett, 2011, p. 10)

The second level of the second model (Barrett, 2011) involves collecting and reflecting on the artifacts using blogs or learning journals. At this stage, teachers, as Barrett notes, can set up a structure for students' reflection, and can assess their students' learning informally.

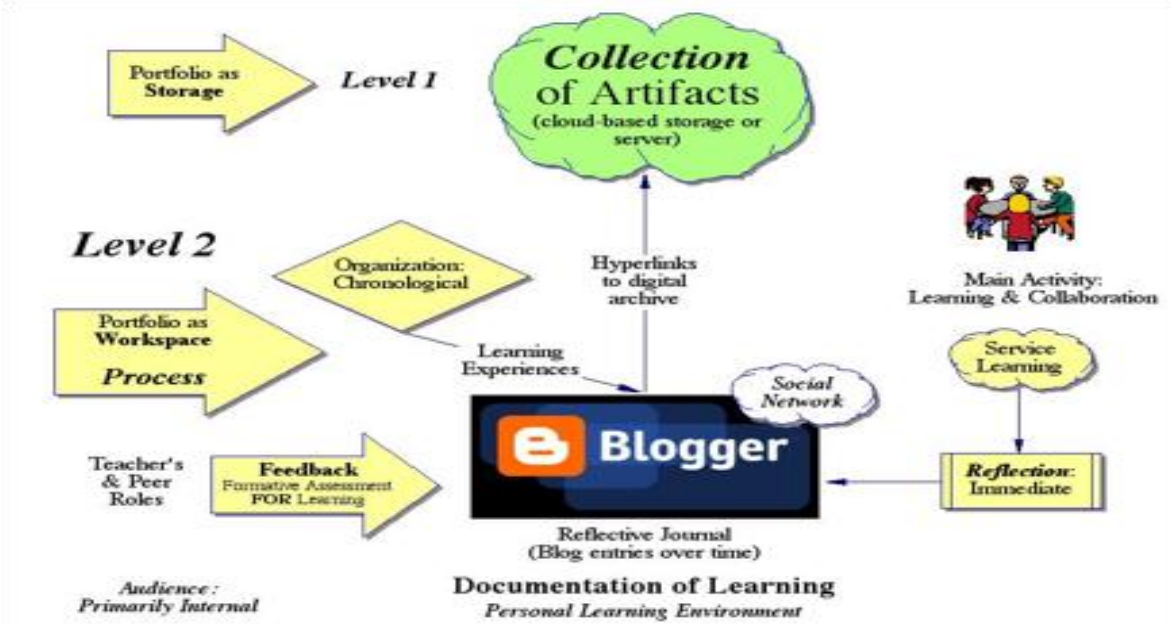

Figure 5: Collection and Reflection (Barrett, 2011, p. 11)

The third level involves reflection and presentation of the student's work. After documenting or recording their achievement over time, students can showcase

their work. Barrett notes that the role of the teacher at this stage is to provide "formative feedback on the students' work so that they can recognize opportunities for improvement" (p. 12). Barrett (2011) notes, "The advantage of this approach is that it is familiar to students (many students are used to blogging in MySpace or Facebook), and is a logical way to document learning and change over time" (p. 12).

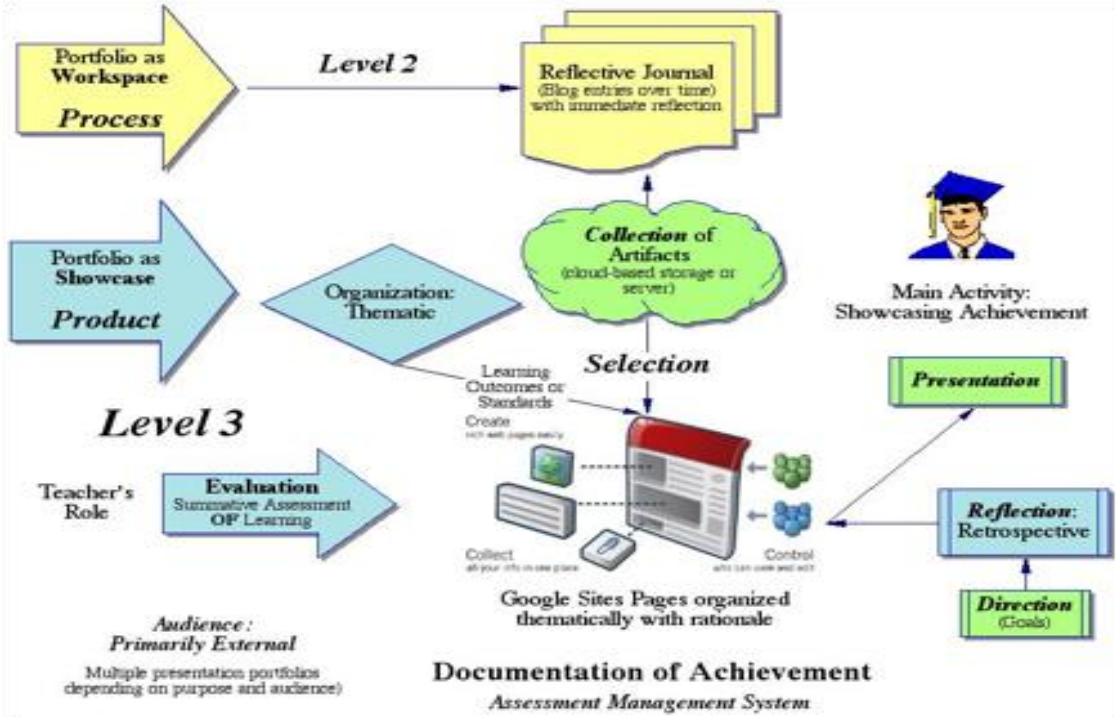

Figure 6: Reflection and Showcase (Barrett, 2011, p. 12)

Barrett (2011) suggests that with the advent of technology "perhaps more K-12 schools will again consider the use of e-portfolios as part of the school reform movement, adapted for the different culture of elementary and secondary schooling" (p. 9).

E-portfolio: A New Form of Authentic Language Assessment

An e-portfolio contains students' formal and informal assessments, such as assignments, tests, quizzes, teachers' instant feedback, student's reflections, and peer evaluation. As such, e-portfolios can be used as authentic language assessment tools. This view echoes the findings of Barker (2005), who believes an e-portfolio is a new form of assessment, which "combines many innovations in the appropriate assessment of learning, i.e., alternative assessment, authentic assessment, competency-based assessment, flexible assessment, and standards-based assessment" (p. 3). For Barrett

(2001), e-portfolios "shift some of the responsibility for assessment from the teacher to the student" (p. 3), and provide "a richer picture of student work than can be gained from more traditional, objective forms of assessment" (p. 4). Foley (2008) points out that by allowing the incorporation of multimedia, an e-portfolio "becomes an increasingly important part of assessing student learning" (p. 5). Guo (2007) discusses the change in the assessment format, noting that e-portfolios change the assessments "from paper to digital format, making the data more accessible and supporting formative assessment for learning" (p. 14).

Regarding using portfolios as alternative assessment tools, Coombe, Davidson, and Lloyd (2009) point out that portfolios can supplement exams "as a way to spread formative assessment over the range of work done over time" (p. 226). Coombe et al. also believe that "perhaps the single most important feature of portfolios is that they can easily be used to match assessment with what students actually do" (p. 226). Brown (2004) points out, "One of the most popular alternatives in assessment, especially within a framework of communicative language teaching, is portfolio development" (p. 256). Brown lists the materials that could be attached to the portfolio, as follows:

- Essays and compositions in draft and final forms;
- Reports, project outlines;
- Poetry and creative prose;
- Artwork, photos, newspaper or magazine clippings;
- Audio and/or video recordings of presentations, demonstrations, etc.;
- Journals, diaries, and other personal reflections;
- Tests, test scores, and written homework exercises,
- Notes on lectures; and
- Self- and peer-assessments—comments, evaluations, and checklists. (p. 256)

Barrett (2010) believes that high schools might need to use e-portfolios for formative and classroom-based tests in order to increase students' achievement.

Challenges, Barriers and Pitfalls

Popularity of the Product vs. Learning

In the literature about e-portfolios, there are two debatable issues about the use of e-portfolios for learning. The first debate is about whether e-portfolio popularity is

all about the novelty of the e-product, or whether e-portfolios have educational value and potential. In this regard, Stefani et al. (2007) point out that "teachers and course designers are now beginning to integrate these technologies and practices into formal education because they are so popular with young people, not because their educational value was always recognized" (p. 8).

The second debate is whether or not technology enhancement in e-portfolios overshadows the main purposes for creating an e-portfolio (Barrett, 2010; Currant et al., 2006; Woodward & Nanlohy, 2004). Currant et al. (2006) argue that "for all the purported student learning benefits of e-portfolios, the reality of implementation can be a challenge [;] we must be careful that the technology does not overshadow or subsume the learning benefits of portfolios" (p. 3). Woodward and Nanlohy (2004), who point to the potential dangers inherent in e-portfolios, also hold this view. They believe "the technological novelty of the product could overshadow the purpose of the portfolio" (p. 228). Using technology for its own sake may help students increase their computer technology knowledge and skills but not necessarily their learning. Also, some language learners may not take e-portfolios seriously. They may focus on the design and technology more than on learning. This issue was raised by Lane (2007) who points out that "the understandings of e-portfolios shared by student practitioners highlight different issues than those commonly discussed in the academic literature; instead of discussing reflection or standards, students emphasize design and audience" (p. 1).

Woodward and Nanlohy (2004) suggest, "Further research needs to take place so the issue of the 'look' of the product does not overshadow the purpose of the portfolio resulting in the learning opportunities being be subsumed by the technology itself" (p. 236). They also explain, "Unless substantial processes are developed there is a danger that they will become a temporary fashion instead of a maintained fact" (p. 237).

To settle this issue, Woodward and Nanlohy (2004) suggest, "A balance must be sought so that the fundamental value of developing a portfolio is maintained" (p. 229). Barrett (2010) supports this view, and suggests a balance of the two faces of e-portfolios: reflection and showcasing. She believes, "An ePortfolio is not a specific software package, but more a combination of process (a series of activities) and product (the end result of the ePortfolio process)" (p. 6). She also adds, "The real

value of an e-portfolio is in the reflection and learning that is documented therein, not just the collection of work" (p. 6).

It is clear from the literature about e-portfolios that the main objectives of developing e-portfolios are not constrained to the collection and digital display of students' work. It also includes reflection and learning.

Issues of Ownership and Design

Other issues of concern raised in the literature about e-portfolios relate to the ownership and design of e-portfolios. For Lorenzo and Ittelson (2005), the issues of ownership and e-portfolio design are challenges to e-portfolios. Some of the questions they raise are:

- Should an e-portfolio be an official record of a student's work?
- As e-portfolios accumulate year after year, more servers and maintenance are required. How long should an e-portfolio remain at an institution after the student graduates?
- Who owns the e-portfolio?
- How should an institution promote and support the use of e-portfolios?
- How are e-portfolios evaluated in a manner that is both valid and reliable?
- How can institutions encourage critical reflection in the design and use of e-portfolios? (pp. 3-4)

For Yancey and Hunt (2009), e-portfolio design should contribute to fostering learning and increasing student engagement. They argue, "The inability to get students engaged or excited about their e-portfolios will result in a flawed implementation" (p. 28). Buttler (2006) also points out that to assure successful implementation of e-portfolios, students should be introduced to "the concept and be given clearly articulated reasons for constructing an electronic portfolio" (p. 15). Barrett (2006), on the other hand, points to the significant role of the teacher in successfully implementing e-portfolios. Incompetent and unskillful teachers (in terms of computer technology), she notes, may affect decisions regarding the uptake of e-portfolios; teachers may choose not to implement them in their classrooms.

Concerns about E-Portfolio Training and Support

Drawing on previous experiences with e-portfolios in the United Kingdom, Ireland, and the Netherlands, Roberts et al. (2005) point out that e-portfolio implementation is intricate as there are a number of critical issues to be considered.

Some of these issues of concern, as noted by Roberts et al., are providing e-portfolio training for teachers and students, retaining flexibility in e-portfolio development, and in responding to teachers and learners' educational needs, technical support, and ownership of e-portfolios. Currant et al. (2006) also believe that "Technology can be a barrier to use due to organization and technical problems" (p. 8). They also add that lack of training and support of e-portfolio users may hinder successful implementation of any e-portfolio system. They point to the need for "a technical support system to help users who want to access the e-portfolios from home; and appropriate training for users to help them make the most effective and efficient use of the application software" (p. 6).

Issues of Cost, Security, and Privacy

Other challenges revealed by researchers about e-portfolios relate to cost, security and privacy, the expenses of teacher training, and time for both users of e-portfolios, teachers and their students. Lombardi (2008) reports that some of the challenges to e-portfolio adoption, as outlined and presented by the ePortConsortium, are the issues of cost and privacy, noting that these issues need "to be examined in the ePortfolio expansion, as more vendors offer the technological products to support digital portfolio production" (p. 10). Lombardi also notes, "In selecting software, quality, user-friendly features, ease of security and applicability overtime must be considered" (p. 10). Currant et al. (2006) also believe that in addition to the technical issues, time pressures may have an impact on e-portfolio uptake and use. They note:

> Time is a key factor for both users and those who are going to aid the students' learning. Learners need to have time to record and reflect on their experiences. Tutors need to have time to adapt their pedagogies and explore the potentials of the new tools. (p. 8)

Williams (2007) discusses another point of concern when he says that "the expense of the technology and training required to create and maintain electronic portfolios will mean that only relatively affluent schools will be able to create and use them effectively, increasing educational disparities between rich and poor" (p. 501).

As is evident, e-portfolio implementation may entail a number of challenges. Some of these challenges are the potential dangers of novelty overshadowing the learning purposes of e-portfolios (see Currant et al., 2006; Stefani et al., 2007; Woodward &Nanlohy, 2004). Other challenges are the expense of technology and e-portfolio training for teachers and learners (Lombardi, 2008; Roberts et al., 2005;

Williams, 2007), the issues of cost, privacy and security (Lombardi, 2008; Williams, 2007), time constraints, and technical support (Currant et al., 2006; Williams, 2007).

Future Possibilities of E-portfolios

Although a number of challenges have been uncovered in the literature about e-portfolios, research has also found them to be promising tools for learning (see Butler, 2006; Currant et al., 2006; Lane, 2007; Roberts et al., 2005; Stefani et al., 2007; Woodward & Nanlohy, 2004). One common belief among these studies is that e-portfolios have educational potential to support and increase students' learning and knowledge. In addition, for these researchers, the integration of e-portfolios in educational institutions needs to be taken seriously to prevent possible barriers and obstacles, and to facilitate successful implementation.

An e-portfolio, as noted by Woodward and Nanlohy (2004), represents "an important asset to school and individual as society heads into the Digital Age" (p. 227). It promotes opportunities to "advance students' knowledge of how to apply those skills effectively in academic and professional contexts" (Lane, 2007, p. 1), and "adds a strong line to the teaching and learning" (Stefani et al., 2007, p. 11).

However, Stefani et al. believe that these educational institutions first need to provide technical support and e-portfolio training for teachers and their students. Stefani et al. point out, "Students need a wide range of electronic abilities in order to develop their e-portfolio" (p. 11). Currant et al. (2006) agree that schools must provide technical support and training for the teaching staff, and add that the technical support should be user-friendly, and that providing time to the teaching staff would enable them to train and support students.

In addition to providing time, technical support, and e-portfolio training for teachers and students, Butler (2006) believes that educational institutions also need to "recognize that implementing an electronic portfolio system is a long-term endeavor that will be most successful if time is spent in the initial piloting stages before it becomes available programme or institution-wide" (p. 15).

It is clear that e-portfolios have educational potential and future possibilities; however, for successful implementation of e-portfolios to take place, educational institutions should provide teachers and their students with time, e-portfolio training, and user-friendly technical support (Butler, 2006; Currant et al., 2006; Lane, 2007; Roberts et al., 2005; Stefani et al., 2007). According to Roberts et al. (2005),

successful implementation of e-portfolios also requires that researchers about e-portfolios engage in case studies to share experience and common conceptual models. They conclude that "learning from each other and with each other, making new choices together from different perspectives, helps to keep all stakeholders involved, and is a key factor for successful implementation of e-portfolios" (p. 9).

Various Purposes of E-portfolio Implementation

A number of case studies have been conducted in high schools, colleges, and universities to explore the various purposes of e-portfolios. Woodward and Nanlohy (2004) investigated the process of e-portfolio development with undergraduate students. Current et al. (2006) explored the potential challenges impacting on uptake and use of e-portfolios in high schools and colleges. Lane (2007) investigated the feasibility of using e-portfolios to foster online presentations in postgraduate studies.

In 2004, Woodward and Nanlohy conducted a study with undergraduate students at the University of Western Sydney to investigate the process of developing e-portfolios. Their study was driven by the question, "Can digital portfolios add value to existing practices or are they a fashion soon to be forgotten?" (p. 227). The results of their study indicated that the interrogated students benefited much from e-portfolios. For these students, using e-portfolios helped them improve their information and technology skills and enhanced collaboration amongst students. Woodward and Nanlohy reported that that the idea of implementing e-portfolios in an undergraduate program was worthwhile. However, they argued, "The purpose of the portfolios and the advantages of developing a digital portfolio need to be fully explored during the implementation of the process" (p. 236).

In 2006, Currant et al. explored the application of two different e-portfolio systems in six different case studies located in schools, colleges, and universities. It was an evaluation project aimed at investigating the initial experiences of two different e-portfolio systems. Formal and informal interviews were conducted with both teachers and their students; weblogs were maintained to record issues relating to e-portfolio implementation. Findings of the study suggested a number of implications which need to be ensured, such as providing appropriate, user-friendly technical support for teachers and students, in addition to time and training for teachers "to enable them to support students effectively and make the most effective use of all the 'affordances' offered by the technology" (p. 8). Currant et al. also advised that

institutions "put an exit strategy in place to enable lifelong learners to extract their portfolio from the software application when they move on to another institution" (p. 8).

Lane (2007) investigated the feasibility of using e-portfolios to foster online presentation skills. The results of her study indicated that students' prior knowledge of Web 2.0 tools and social networking services may impede the adoption of e-portfolios "since students are likely to view e-portfolios as an extension of these informal forums" (p. 5). She therefore suggests that students should be taught "to think of e-portfolios as academic or professional spaces where they can engage a specific academic or professional audience is a crucial step in unlocking the full potential of this educational technology" (p. 5).

It is clear from the previous studies that e-portfolios have educational potential, such as increasing student learning and technology skills (Woodward & Nanlohy, 2004), and fostering student online presentation skills (Lane, 2007). Lane suggests supporting and guiding students in e-portfolio development to increase their engagement and motivation.

The Role of the Teacher with E-Portfolios

E-Portfolios in Student-Teacher Educational Programs

E-portfolios have become very popular amongst student teachers in teacher educational programs. A large number of studies (e.g., Chau, 2007; Kocoglu, 2008; Strudler & Wetzel, 2005; and Wang, 2009) have been conducted to investigate student teachers' views and concerns about e-portfolios, in addition to examining their motivation and collaboration in the process of developing e-portfolios.

Strudler and Wetzel (2005) employed case study methodology to investigate the diffusion and implementation of electronic portfolios in teacher educational programs. Findings of their study suggested that e-portfolios could enhance students' technology skills. In addition, the student-teacher participants found out that e-portfolios could be used for purposes other than their planned purposes, such as after graduation in job interviews. Strudler and Wetzel conclude that there is a need for further investigation of additional potential uses in order "to examine the future directions for e-portfolios" (p. 430).

To examine the potential challenges and/or barriers of e-portfolios, Chau (2007) conducted a study in a polytechnic university in Hong Kong. One of the points

raised in his discussion is that teachers were concerned about many issues, including workload, institutional support, recognition given by society or employers to students' e-portfolios, and how best to develop and promote an e-portfolio culture. In spite of all the challenges, Chau concluded that even though many challenges were noted with e-portfolio use, "ICT represents a powerful tool for addressing the diverse needs, styles, intellectual and technical capabilities of learners in the 21st century [and that] the e-portfolio is just one among an array of learning options rendered possible by technology" (p. 148).

Kocoglu (2008) conducted a similar study in a Turkish university to investigate the potential barriers of e-portfolios. The initial interview results of his study indicated that for student teachers, developing an e-portfolio was "a tiresome and time consuming process, which needed support from faculty and classmates" (p. 17). Kocoglu also found that "when asked about the purpose of the portfolio in pre-interviews, the student teachers said it was to get a good course grade and meet graduation requirements" (p. 17). However, in the post-portfolio development stage, student teachers' attitudes toward e-portfolios became more positive as they collaborated and shared constructive feedback. Kogulu notes that in the process of exchanging ideas and feedback, student teachers reflected more on their strengths and weaknesses, and thus "Collaboration was an important practice during the portfolio process" (p. 17).

Wang (2009) examined the effects of student-teacher collaboration in e-portfolio construction and whether collaboration produced better e-portfolios than those constructed individually. His study was conducted in a technology integration course offered to students in teacher educational programs. The results of his study confirmed the findings of Kocoglu in that they highlighted the significant role of collaboration in building e-portfolios. He concludes that collaboration created "positive learning environments and generated a positive impact on students' technology proficiency" (p. 64).

The REFLECT Initiative Project 2005-2007

As the literature about e-portfolios lacked empirical evidence about successful implementation of e-portfolio in K-12 classrooms, Barrett (2005) took the initiative to conduct a large-scale project in America to investigate high school teachers' and students' views of e-portfolios through the REFLECT Initiative Project. It was a two-year action research endeavor led by Barrett from 2005 to 2007 in 23 secondary

schools. Teachers' and students' surveys, on-site observations, online discussions, and teachers' journals and students' reflections were used as sources of data collection. After preliminary site observations, Barrett reported that the teacher's role is critical and that access to technology facilitates successful implementation of e-portfolios in secondary schools. She also noted that "having mature technology integration strategies, a higher level of technology skills, and a support system or close collaborators were also indicators of 'High' levels of e-Portfolio use" (p. 14).

In the final report of the REFLECT Initiative Project, Barrett (2008) notes that teachers who had the habit of reflecting on their teaching, and teachers who collaborated in the e-portfolio project were successful in integrating e-portfolios in their classrooms. This finding indicates, first, that implementing e-portfolios in K-12 classrooms enhanced reflective learning, and second, that successful implementation of e-portfolios required collaboration among the teachers involved. For Barrett (2008), this finding "validates the assumption that content and reflection on learning is more important than technology in implementing electronic portfolios, [and thus] the focus is not on the technology, but on the learning!" (pp. 9-10).

In The REFLECT Initiative Research Project Final Report, Barrett (2008) reports that:

> For many teachers in this study, there was a dual learning curve: learning the TaskStream technology tools and learning to use portfolios with students. Those teachers, who had prior experience using the TaskStream tool in their Teacher Education programs, or those with prior paper-based portfolio experience, were able to quickly start implementing the program with their students. Those teachers who understood reflection and metacognition and used assessment for learning strategies to provide quality feedback to their students were most often in the 'High' group. (pp. 10-11)

Barrett's project highlighted the role of the teachers in successful implementation of e-portfolios. In addition, it showed that teachers who had prior experience with e-portfolio programs in their teacher educational programs, and teachers who had prior experience with paper-based portfolios, were able to successfully implement e-portfolios with their students.

Barrett's study could not be fully replicated since it targeted schools in America that had already implemented e-portfolio programs viaTaskStream. Nonetheless, it is interesting to compare the results of both studies with a particular

focus on teachers' roles and perceptions of e-portfolio implementation in secondary schools. The main purpose of drawing comparisons between both studies was to learn more about teachers' interests and concerns about e-portfolio adoption in their classrooms.

As is evident, researchers anticipate future possibilities for successful implementation of e-portfolios, and highlight the teacher's role for the success of e-portfolio implementation. Generally, e- portfolios were experienced as a success in student-teacher educational programs; however, there is no empirical evidence of successful implementation of e-portfolios in K-12 classrooms (see Barrett, 2007). In addition, there is no evidence that e-portfolio design or structure contribute to fostering deep learning and to increasing students' engagement (see Butler, 2006; Yancey & Hunt, 2009).

Clearly, research in this area is relatively new. Few studies have investigated teachers' views regarding e-portfolios. Therefore, the present study focuses on teachers' views of e-portfolios specifically seeking to find out about what the MAG teachers think of e-portfolio implementation in secondary schools in the UAE. This present study adapted questionnaires developed by Barrett (2006), in a way that suited the context of this study. These MAG teachers' attitudes will very likely give an indication of the potential for e-portfolio success or failure in their schools because of teacher engagement, or lack thereof.

CHAPTER THREE
METHODOLOGY

The main purpose of this study was to investigate MAG teachers' views of e-portfolios. It investigated their views of differences between e-portfolios and paper portfolios. It also aimed to find out about the participating teachers' attitudes and perspectives about the purposes, benefits, and challenges of e-portfolio implementation in Cycle 3 MAG schools in the UAE. Therefore, the present study sought to answer the following three questions from the perspectives of the participating MAG teachers:

1. What does technology add that the hard copy version of the portfolio does not provide?
2. What are the benefits of, challenges to or barriers against e-portfolio implementation?
3. To what extent is e-portfolio integration feasible?

To achieve the purpose of this study, both quantitative and qualitative data were collected. In order to triangulate, data were collected from multiple sources including a questionnaire, individual interviews, a group interview, and a focus group discussion (see Appendices A, B, C and D). First, I distributed 46 questionnaires to Cycle 3 (secondary) MAG teachers in three educational zones where there were MAG schools for boys and girls. Out of 46, 43 MAG teachers responded to the questionnaire and 3 participants did not respond. Second, I held follow-up interviews with 10 participants who completed the questionnaires and volunteered to be interviewed. These ten participants were selected to represent the six selected schools. Third, to investigate further an Emirati cultural concern mentioned in an interview, I held a separate group interview with only four surveyed Emirati teachers. Although 15 Emirati female teachers completed the questionnaire, only 4 of them volunteered to join the separate Emirati group interview. Fourth, I led a 30-minute focus group discussion about e-portfolios with eight surveyed teachers, who were also selected to represent the six selected schools, after a 15-minute presentation about e-portfolios with them to stimulate discussion.

Research Instruments

I triangulated using a combination of questionnaires, individual interviews, a separate group interview and focus group discussions. In light of a number of surveys developed by Barrett (2006) for The REFLECT Initiative Project conducted in North America, I designed the questionnaire of the present study (see Appendix A). While Barrett's initial surveys targeted schools that had already incorporated e-portfolios in K-12 classrooms, I adapted Barrett's survey to suit the context of the present study and answer the main query of this study. As for the interviews and focus group discussion guidelines, I prepared the set of questions (see Appendices B, C, and D).

I used a reiterative process in data collection and analysis. The individual interview and focus group discussion data was used to support the data collected from the surveys. A reiterative process in data collection and analysis was used instead of a linear pathway to increase understanding of the findings. According to Pico (2002), the reiterative process is a refinement process that "creates nonrandom groupings, comparisons and differentiation by disparity computations" (p. 312). Specifically, findings from the questionnaire were further addressed in the interviews and focus group discussions, and the Emirati group clarified an issue raised in an individual interview.

Teachers' Questionnaire

First, I used a questionnaire based on Barrett's (2006) questionnaire (see Appendix A) which was completed by 43 Cycle 3 teachers (20 males and 23 females) working in three various educational zones in UAE MAG schools. I administered the teachers' questionnaire in person with the participating female MAG teachers, and two male colleagues in two different zones agreed to administer the questionnaires in their schools.

The questionnaire (see Appendix A) elicited the participating teachers' views of e-portfolios. It asked the teachers about their perceptions of the purposes of having student e-portfolios. It also included questions/statements about software programs that these teachers are mostly familiar with. The questionnaire also examined the participating teachers' perceptions of the potential benefits of students' e-portfolios, their concerns about the adoption of students' e-portfolios, and finally their views of future possibilities of students' e-portfolios. Two open-ended questions were added to the questionnaire to elicit general ideas about how teachers perceive the purposes of

having student e-portfolios, and their estimation of e-portfolio integration in their classrooms.

Teachers' Interview

I used semi-structured interviews (see Appendix B) as another source of collecting and confirming data. Myers and Newman (2007) define the qualitative interview as a "powerful research tool and an excellent means of gathering data" (p. 23). They explain that "in an unstructured or semi-structured interview, there is an incomplete script. The researcher may have prepared some questions beforehand, but there is a need for improvisation. The interviewer is the researcher or is one of a team" (p. 4). The semi-structured interview format was chosen in this research to allow flexibility in responding to issues mentioned by the participants.

The semi-structured interview in this research was conducted with five males and five females who had completed the questionnaires and consented to be interviewed later. The female teacher interviews were conducted in my school and in a near by school for females. In Emirati culture, females are not supposed to have private conversations with mature males outside their family. Therefore, all the male participants were interviewed over the telephone, except for one male teacher who chose to be interviewed at AUS.

I asked the participating MAG teachers if they had prior knowledge of portfolios (of any kind). In addition, I was interested in finding out what teachers thought of e-portfolios in terms of benefits and challenges, and the kind of technology that teachers were likely to employ to help build student portfolios. These interviews were designed to help me understand whether teachers prefer paper-based portfolios or e-portfolios, and to reveal the extent to which the participating MAG teachers thought e-portfolio integration in their classrooms was possible.

Data collected from male individual interviews was from my notes, while data collected from female individual interviews was transcribed from recordings.

Emirati Teachers' Group Interview

Third, this separate Emirati group interview was conducted to clarify a concern about e-portfolio implementation in UAE high schools in particular, expressed by an interviewed Emirati teacher. This particular participant pointed to the risk of exposing young girls to the internet in general and referred to the issues of privacy and security as problematic. Given the fact that 15 participants in this study were Emirati female teachers, investigating the issue of whether or not e-portfolios

are potentially harmful for Emirati girls in particular is very pertinent. If this issue is widespread and unique to Emirati female participants, then conducting a separate interview with a group of female Emirati teachers would yield new insights into how e-portfolio implementation should be handled in girls' schools in particular.

I asked the four Emirati teachers who participated in the Emirati group interview whether using the internet in general and e-portfolios in particular, was a potential barrier in girls' schools in particular including MAG schools and other UAE government schools for girls. Another question was whether these participants had had some positive/negative experiences with e-portfolios of any type. A third question was about their concerns and/or recommendations for users and non-users of e-portfolios in UAE schools (see Appendix C). Data collected from the Emirati group interview was transcribed from recordings.

Teachers' Focus Group

I used focus groups (see Appendix D for focus group discussion guidelines) in order to triangulate and obtain more data. Morgan (1996) defines focus groups as a "research technique that collects data through group interaction on a topic determined by the researcher" (p. 130). He explains that this method helps "locate the interaction in a group discussion as the source of the data, [and] acknowledge the researchers' active role in creating the group discussion for data collection purposes" (p. 130). Morgan believes "focus groups are most useful when they produce new results that wouldn't be possible with the standard methods in a particular field" (p. 136). Morgan and Spanish (1984) report that "the data collected in focus group sessions typically consist of tape-recorded group discussions among four or five participants who share their thoughts and experiences on a set of topics selected by the researcher" (p. 263).

I led a 30-minute focus group discussion with eight Cycle 3 teachers, which was preceded by a 15-minute presentation, which I gave to teachers in my school (see Appendix E for presentation materials). The focus group included five female teachers and three male teachers. The focus group questions revolved around issues related to teachers' personal experiences with portfolios (of any kind), major problems associated with working on students' p-/e-portfolios, and teachers' views about using either type of portfolio. I took notes on my observations during the focus group discussion.

It is noteworthy that data collected from male individual interviews and focus group discussions was from my notes, while data collected from female individual interviews and Emirati group interviews was transcribed from recordings.

Participants

The participants in this study consisted of four groups: surveyed teachers, individually interviewed teachers, Emirati group interview teachers, and focus group teachers.

Surveyed Teachers

There were 46 MAG teachers in the six selected schools. Out of 46, 43 teachers completed the questionnaire (20 males and 23 females). All of these 43 participants teach grades 10 to 12. All of them were familiar with paper-based portfolios (p-portfolios), but only 13 of them had had previous experience with e-portfolios. The participating teachers had "some" or "lots" of knowledge of computer technologies and applications.

Out of the 43 teachers who completed a questionnaire, 39 participants had one or more years of experience with p-portfolios, and only four participants had less than one year experience with p-portfolios. Concerning e-portfolios, 13 of these teachers were familiar with e-portfolios, while 30 participants had no previous experience with e-portfolios. A total of 11 participants had "some experience" (1-3 years) with e-portfolios, and only two participants had three or more years of experience with e-portfolios.

Table 1: The Participating Teachers' Experiences with Portfolios (of any type)

Q: "How long have you worked with portfolios? (Of any type)"				
	None (no experience)	Just starting (less than 1 year)	Some experience (1-3 years)	Lots of experience (3+ years)
P-Portfolio	0	4	16	23
E-Portfolio	30	0	11	2
Total				43

To identify these participants' knowledge of computer technologies, I listed seven applications in the survey, ranging from easy to challenging, that could be utilized as a platform for building e-portfolios. This list of applications was adapted from Barrett (2006) and included PowerPoint, MSWord, Microsoft OneNote 2007, Front Page, Acrobat, Dreamweaver, and hypermedia programs.

All participants were familiar with PowerPoint and MSWord applications. Out of 43, 13 participants knew Microsoft OneNote 2007, and only six teachers were familiar with Acrobat. As shown in Table 2, only two participants knew Dreamweaver, and only five participants had skills in hypermedia programs. Three participants suggested some applications that were not listed in the survey, which were Flash, Authorwave, Suite, Switch, and Moviemaker. I considered these applications as part of hypermedia programs, and thus I added these three participants to the hypermedia programs' column.

Table 2: Teachers' Familiarity with Computer Technologies

Q: "Which of these programs are you familiar with?"							
	Power Point	MS Word	Microsoft OneNote 2007	Front Page	Acrobat	Dream weaver	Hypermedia Programs
Participants	43	43	13	6	9	2	5

The 43 surveyed teachers were assigned identification codes (T1, T2, T3…, T43). Detailed information on the surveyed teachers' profiles and identification codes is displayed in Appendix F.

Interviewed Teachers

Initially, out of the 43 teachers who completed the questionnaire, 13 volunteered for an individual interview. I selected the first 10 teachers responding who represented all six schools. Therefore, I conducted a10-to-15-minute interview with each of these selected participants (5 males and 5 females). Face-to-face interviews were held with five female participants and telephone interviews were held with four male participants. I interviewed one male participant in person because he preferred to have a face-to-face interview at AUS. This interview was also 10-15 minutes. I took notes of the telephone interviews and of the face-to-face interview with the male teacher interviewed at AUS. The interviewed teachers were assigned identification codes, IT1, IT2, IT3 …, and IT10 (see Appendix G).

Special Emirati Group Interview

Out of the 15 Emirati female teachers who completed the questionnaire, only four of them volunteered to join the Emirati group interview. (There were no male Emirati teachers in the six selected schools.) This separate Emirati group interview was conducted to clarify a possible barrier to e-portfolio implementation in UAE

girls' schools in particular, a view expressed by an interviewed Emirati female teacher (IT7). This particular participant pointed to the risk of exposing young girls to the internet in general and referred to the issues of privacy and security as problematic. This particular participant, with three other Emirati female participants who were among the questionnaire participants, volunteered to join this separate group interview. Of these four participants, one Emirati participant is currently teaching in my school, and the other three teachers came from a school nearby to join the Emirati group interview. The three newly interviewed Emirati teachers were assigned identification codes (EIG1, EIG2, and EIG3), while the fourth interviewed Emirati teacher had already been identified in the individual face-to-face interview as IT7 (see Appendix G).

Focus Group Teachers

Among the surveyed teachers, only eight of them volunteered for focus group discussion. This sample was purposive as I selected a sample that represented various ages, various teaching experiences, and various experience with both types of portfolios. At the same time, this sample represented all six schools participating in this study.

Prior to conducting a focus group discussion with eight participants, I gave a 15-minute presentation about e-portfolios in my school with some of the questionnaire participants who had not been individually interviewed. (See Appendix D for the presentation PPT slides.) They were assigned identification codes, FGT1, FGT2, FGT3 …, and FGT8 (see Appendix G). The presentation was given to stimulate discussion in the follow-up group discussion. Even though the participants' understanding of e-portfolios would likely have been influenced by the presentation, they definitely had their own views and ideas about e-portfolios.

The next chapter addresses in depth data analysis, looking at teachers' views of the practicality of implementing e-portfolios in their schools.

CHAPTER FOUR
DATA ANALSIS AND FINDINGS

This study explored MAG teachers' views of the feasibility of e-portfolio implementation. Thus, it sought to answer the following three questions from the perspective of the participating MAG teachers:

1. What does technology add that the hard copy version of the portfolio does not provide?
2. What are the benefits, challenges or barriers with e-portfolio implementation?
3. To what extent is e-portfolio integration feasible?

Data Analysis

In this research, data collection and data analysis occurred concurrently in a reiterative process. First, the questionnaire results were analyzed. Then, the interview questions were formulated based on the results. The interview and focus group results were analyzed. Interview analysis identified an Emirati concern, which was a potentially serious barrier for e-portfolio implementation in Emirati schools for girls. This concern was addressed further in a special Emirati group interview. I collected the qualitative data of the survey (interviews, focus group, Emirati group interview, and open-ended questions on the questionnaire). Then, I closely read the responses, looking for patterns, phrases, or key words that were frequent and that linked the participants' accounts with the topic under investigation.

I rendered the female teachers' interviews into written form by transcribing the interviews. The male interview responses were already in written form because they were reported in my notes. Second, I took notes of the focus group and I transcribed the Emirati group responses and linked them to the data collected from the survey and the individual interviews to triangulate.

Findings

In this research, the findings are classified into three sections; each section answers one research question. The first question is about what technology adds to the hard copy version of the portfolio. The second question investigates the benefits of, challenges to, or barriers against e-portfolios implementation. Last, the third question examines the extent to which e-portfolio implementation is feasible, from the participating teachers' perspectives.

Responses to Question 1: "What does technology add that the hard copy version of the portfolio does not provide?"

The literature about e-portfolios (see Al Kahtan, 1999; Barrett, 2007; Butler, 2006; Stefani et al., 2007) reveals that the purposes for creating both types of portfolios are the same, but the use of technology allows some change. But what did the participating teachers in this research think about this issue? What does technology add to the paper format, from the participating teachers' perspectives?

Responses about Purposes of E-portfolios

To obtain an accurate answer to this question, teachers were asked in the questionnaire (Part Two, question 2), "What do you perceive to be the purposes of having a student electronic portfolio?" I assumed teachers' responses would reveal their views of the purposes of having e-portfolios and of possible differences between both types of portfolios, if any. Their responses might help explain what they thought the e-format of portfolios would add to the paper version. I listed five purposes for them to consider which are often attributed to traditional portfolios, looking for some more explanations about the purposes of e-portfolios from the participating teachers' views. These purposes are learning, assessment, showcasing work, planning, and evaluation.

Responses to the second question of the questionnaire varied. More than half of the participants selected learning, evaluation, and showcasing. 31 surveyed teachers (72%) chose learning as a purpose of having a student e-portfolio, while 28 (65%) participants pointed to evaluation. Less than half of the participants selected assessment and planning (see Figure 7).

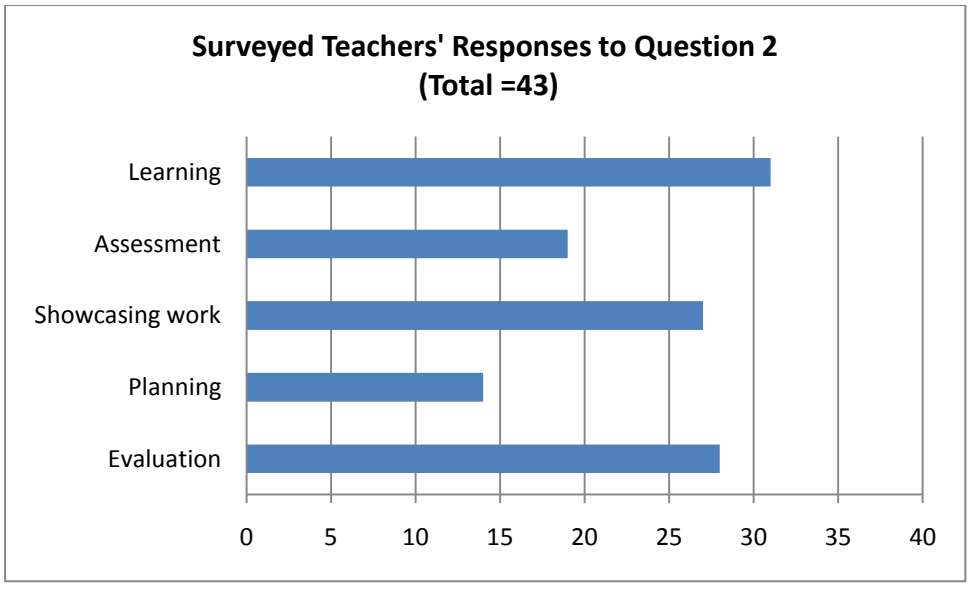

Figure 7: Various Purposes of E-Portfolios

When the surveyed teachers were again asked about the purposes of e-portfolios in the first open-ended survey question, 41 out of the 43 participants responded, comparing both types of portfolios, and reported what, in their view, were the add-on values of technology.

There was a wide variety of responses among these users and non-users of e-portfolios. The most frequent response, by 13 teachers (32%), was that e-portfolios were a career advantage as they prepared students for college study and research. The second most frequent comment, by 11 teachers (27%), was that e-portfolios were the same as paper portfolios. In addition, the participants brought up new themes for discussion in their responses to the first open-ended question, such as enhancing students' learning, allowing students to organize, showcase, and publish their work electronically, giving students the opportunity to develop and use their ICT skills, allowing students to store their work electronically, saving time and paper, and increasing students' motivation (see Figure 8).

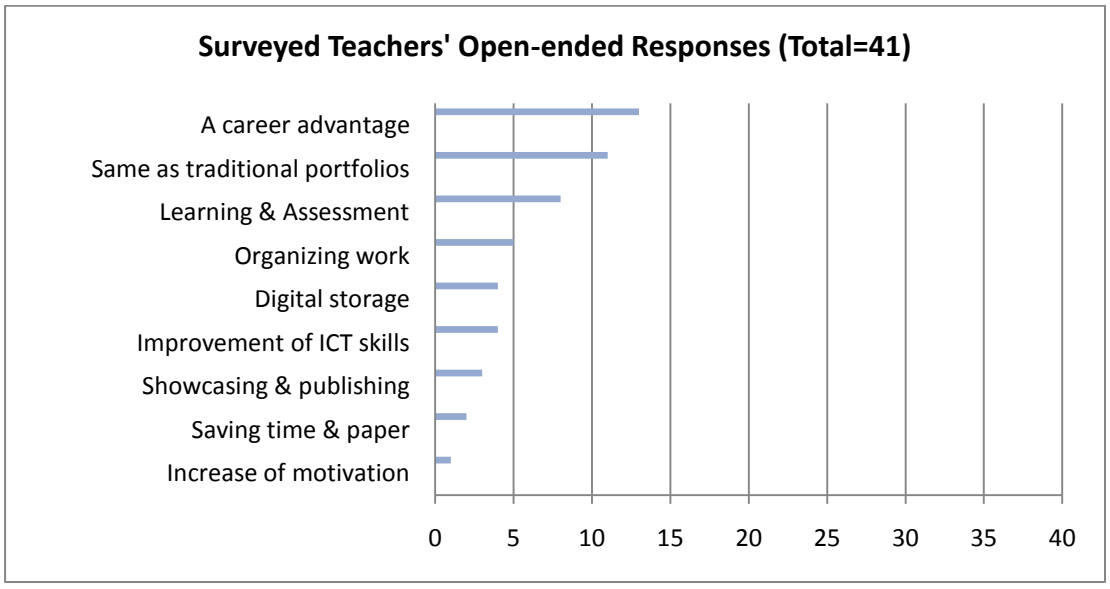

Figure 8: Other Purposes of E-Portfolios Mentioned by Teachers

All the 41 participants responding to the first open-ended question provided various views regarding the purposes of e-portfolios. As shown in Table 3, their responses were divided into six categories: career advantage, assessment and learning tools, organization and showcasing, ICT skills, digital storage, and time and paper.

The following examples represent teachers' responses to the first open-ended question in the questionnaire. Comments that appear in quotation marks throughout this study were transcribed and those that appear without quotation marks are based on my notes. The detailed and complete versions of the open-ended question results are available in Appendix H.

Table 3: Teachers' Views of the Purposes of E-portfolios

Purposes of E-portfolios	Participants' Words	Participants
Career advantage	T26: "E-portfolios would be useful in preparing sts for higher education & future careers." T40: "It is good for them to be ready for college study and research."	14/41
Learning	T16: "E-portfolios can be a perfect tool in the learning process that can serve a lot for the teacher as well as the student in the assessment."	8/41
Display	T9: "I think it is a technical means to organize and present work by students."	8/41
ICT skills	T15: "I think e-portfolio help students who are good at computer to show their skills in computer and in using multimedia."	4/41
Storage	T12: "To store material, to show their achievements."	4/41
Time and paper	T11: "Definitely, e-portfolios will save time and paper."	3/41
Total responding to the first open-ended question		41

The ten interviewed teachers' responses to the first question of the interview about the purposes of having student e-portfolios revealed a variety of responses, which are similar to the open-ended responses in the questionnaire. However, there was no majority opinion. Three participants pointed to the feature of digital storage of artifacts, and three other participants highlighted the possibility of using multimedia. Two interview participants thought e-portfolios saved time and paper, and two other participants pointed to showcasing and presenting students' work. A third participant (IT8), who pointed in her previous reply to the feature of saving time and paper, thought an e-portfolio was also a source of motivation and fun.

Table 4: Interviewed Teachers' Views of the Purposes of E-portfolios

Purposes of E-portfolios	Participants' Words	Participants Mentioning Theme
Use of multimedia	IT6: "I think technology allows the use of multimedia and this is a plus. I mean students will enjoy using videos and other digitals in their work."	3/10
Storage	IT10: "Technology is a useful tool for storing students' work digitally; they can go back and review, modify or add new items."	3/10
Display	IT3: Students can show their skills and abilities to their classmates, their teachers and also their parents. IT10: "I think e-portfolios are excellent for displaying student work especially sometimes in paper portfolios students cannot show their skills, I mean in technology."	2/10
Save time and paper	IT4: E-portfolios save more time, to save paper is not valuable, electronic devices are more valuable.	2/10
Motivation	IT8: "With e-portfolios, students will be highly motivated, and … and that brings a lot … a lot of fun to the class."	
Total interviewed teachers		10

The focus group teachers' responses about the purposes of having student e-portfolios confirmed the questionnaire and interview results—that is, these participants mentioned purposes identified in the open-ended questionnaire question and interviews. More precisely, the focus group teachers reported that the e-format of portfolios adds many features that the paper version does not provide, such as improvement of ICT skills, digital storage of artifacts, and the possibility of increasing students' motivation. Out of all eight, five participants in the focus group discussions believed e-portfolios help students improve their ICT skills, three participants pointed to digital storage of students' work, and two participants (FGT3 and FGT4) added an additional point to their previous comments about increasing students' motivation.

Table 5: Focus Group Teachers' Views of the Purposes of E-portfolios

Purposes of E-portfolios	Participants' Words	Participants Mentioning Theme
ICT skills	FGT1: Students by using e-portfolios can work every day on computers and thus they will develop their computer skills.	5/8

Storage	FGT2: I think one major benefit of electronic portfolios is that it helps students to organize and store their work thematically and electronically.	3/8
Motivation	FGT3: Using electronic portfolios will motivate my students. FGT4: I also think the major benefit of e-portfolios is motivation. Students like technology, so combining technology with learning is very motivating for our students.	
Total focus group teachers		8

As is evident from the responses of the three groups of participants, the surveyed teachers, the interviewed teachers, and the focus group teachers, there is a strong belief that technology provides the e-version of portfolios with some add-on features. Storage and development of ICT skills were mentioned in all three qualitative sources of data, while organization, display, and saving time and paper were mentioned by two sources (questionnaire and interview). Three of these added features mentioned in the qualitative data can be related to learning: organization, ICT skills, and digital storage. Digital storage and organization are definitely related to learning and ICT skill is one area, which is viewed as a necessary part of education in this technological age. Thus, overall learning was referred to as the most popular purpose for e-portfolios in questionnaire responses, open-ended responses, the interviews, and focus group discussions.

Which Is More Powerful and Convenient: E-Portfolio or P-Portfolio?

To further investigate whether or not the surveyed teachers believed e-portfolios or paper portfolios are superior, all the participants were asked in the questionnaire (Part Two, question 5), "Do you think e-portfolios are more powerful and more convenient than paper-based portfolios?" Of the total 43 who were surveyed, 25 (58%) felt e-portfolios were more powerful and more convenient than p-portfolios, and 18 participants (41%) disagreed (see Table 6).

Table 6: More Powerful and Convenient Portfolio Format

Survey question 5, Part 2: "e-portfolios are more powerful and more convenient than p-portfolios."				
Definitely Yes	Yes	No	Definitely No	Total
6	19	18	0	
25		18		43

Teachers' Reports of their Students' Portfolio Preferences

Did these teachers know whether their students would prefer to work on e-portfolios or p-portfolios? To investigate this point, teachers were asked, "Do you think your students would prefer to work on e-portfolios or p-portfolios?"(Part Two, question 6). A majority (a total of 31 (72%) participants) chose the option "Maybe" to answer the sixth question (see Table 7).

Table 7: Teachers' Reports of Their Students' Portfolio Preferences

Survey question 6, Part 2: "Do you think your students would prefer to work on e-portfolios rather than on paper-based portfolios?"					
	Definitely yes	Maybe	I don't know	Definitely no	Total
Responses	7 (16%)	31(72%)	4(9%)	1(2%)	43

Teachers' Overall Experiences with Students' P-Portfolios

Reporting their overall experiences with students' p-portfolios, the surveyed teachers ranked their experiences on a scale of one to five, with one as the most negative and five as the most positive. The results showed a range of teachers' views of their experiences with p-portfolios. Six (14%) participants selected number five, which was the highest, 11 (25%) participants thought their experience was number four, and 15 (35%) participants rated their experience as three. In addition, nine (21%) participants chose two, and only two (5%) participants were very unsatisfied with their experiences with students' p-portfolios, and thus selected number one, which was the lowest, to evaluate their experiences with students' p-portfolios.

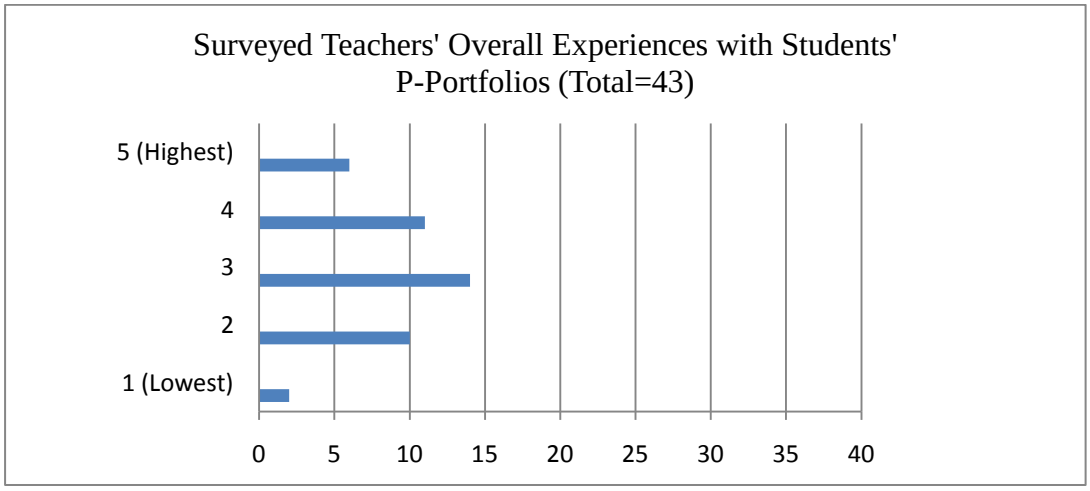

Figure 9: Teachers' Evaluation of Their Experiences with Students' P-Portfolios

To summarize, in answer to the first research question, which is about what technology adds to portfolios, I triangulated the data by comparing the responses of the three groups of participants: the surveyed teachers, the interviewed teachers, and the focus group teachers. All three groups of participants indicated overall that technology adds features that the hard copy version does not provide. Teachers' views reveal that for them, learning is the most popular purpose of e-portfolios. Teachers' open-ended responses indicated that e-portfolio potential in learning relates to many technology features, such as organization and display, development of ICT skills, and digital storage. This belief about learning was also reflected in the individual interviews and in the focus group teachers' responses.

To dig deeper into teachers' personal beliefs about the potential benefits of and possible barriers against e-portfolios, I sought to draw out the views of the three groups of participants, the surveyed teachers, the interviewed teachers and the focus group teachers.

Response to Question 2: "What are the benefits, challenges or barriers with e-portfolio implementation?"

Benefits of E-portfolios

Generally, the three participating groups' views about the usefulness of e-portfolios were positive. The surveyed teachers were asked to check all answers that applied to the following statement (Part Two, question 7): "Student e-portfolios are useful for students after graduation in…" All 43 participants selected more than one option (i.e., business, job interviews, and overseas studies) and all of them indicated e-portfolios were useful for students after their graduation in one way or another. More than half of the participants (32) thought e-portfolios were useful mostly for job interviews, and less than half of the participants (16) believed e-portfolios were useful for business (see Table 8).

Table 8: Potential Use of E-portfolios after Graduation

"Student e-portfolios are useful for students after graduation in …"	Number of Responses
Business	16

Job interviews	32
Overseas studies	24

To further investigate the benefits of e-portfolios from the perspective of the surveyed teachers, I specified seven benefits of e-portfolios' usage in the third part of the questionnaire (question 1), adapted from Barrett (2001). These included responsibility, organization of the work, digital storage, web publishing, showcasing, digital presentation of the work, and reflective learning. To discover which of these benefits were observed the most by the participating MAG teachers for their students, the teachers were asked to check all responses that they thought appropriate, completing the statement, "Working on electronic portfolios would…"

I have ranked these statements from most to least checked. All purposes but reflective learning were selected by more than half of the teachers. 40 participants (93%) felt e-portfolios could be used to record students' achievement. 37 participants (86%) felt working on e-portfolios would help students publish their work, and 30 participants (70%) believed e-portfolios could help students organize and present their work. In addition, 30 participants highlighted the advantage of showcasing students' work. 27 participants (63%) believed e-portfolios allowed digital storage, 26 participants (60%) felt e-portfolios could make students more responsible for their own learning, and 24 participants (56%) reported e-portfolios motivate students. Only11 participants (25%) thought e-portfolios enhance reflective learning (see Figure 10).

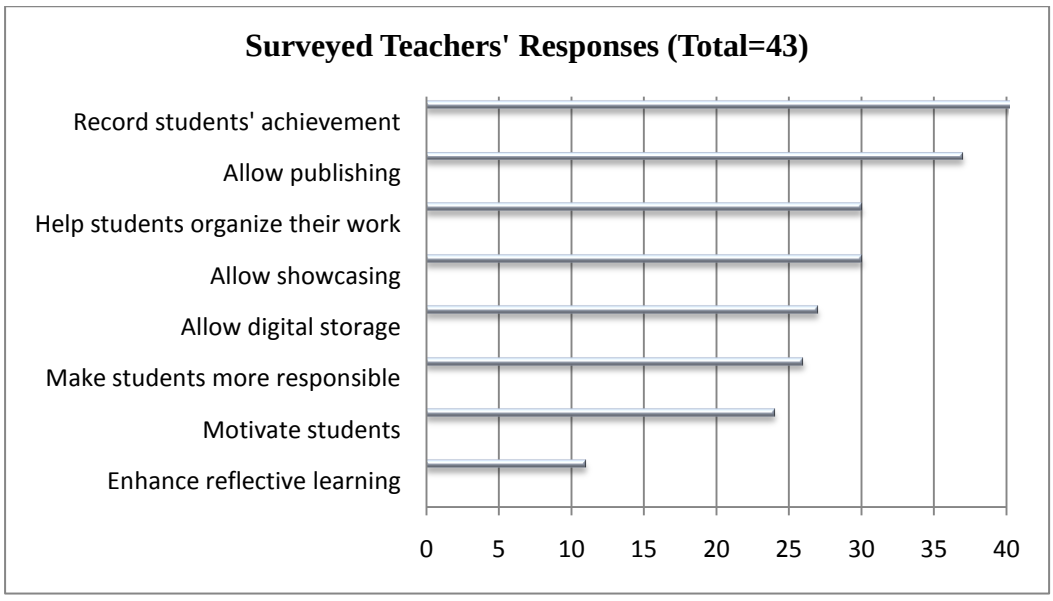

Figure 10: Potential Benefits of E-Portfolios

The interviewed teachers' responses reinforced the questionnaire responses about purposes and benefits of e-portfolios: instant feedback, use of hypermedia and hyper-links, enhancement of ICT skills, organization, and saving time and paper.

Table 9: Interviewed Teachers' Responses

Benefits of E-Ps	Participants' Words	Participants
Flexibility, and Instant feedback	IT1: Students can edit their work…they can also receive immediate feedback from their teachers. IT7: "I think it helps them ... to show their teachers the work done already...they can e-mail any thing to each other, I think they can use them to show their work to their teachers."	3/10
Use of multimedia/ hyperlinks	IT4: Students can make changes easily and it will give them the chance to present their work in various ways like using videos and multimedia, links, and logs.	2/10
ICT	IT5: I think they have great potential, like increasing students' ICT skills.	1/10
Organizer/ Record of student achievement	IT10: "It is a kind of … a kind of...folder...organizer ...it shows them their progress...it helps them to keep their work whenever they want to see it... traditional portfolios are ...very boring...	2/10
Saves time /Paper	IT6: "Yes, I think dealing with e-portfolios saves time more than the paper one and I think this is good for teachers who are overloaded with school work. Also, e-portfolios keep early finishers and high achievers busy in class."	2/10
Total interviewed teachers		10

The focus group comments also reflected the questionnaire responses about purposes and benefits of e-portfolios. The eight focus group teachers were asked, "What might be the benefits of having student e-portfolio?" The possibility of incorporating multimedia in students' portfolios and the possibility of organizing and displaying student work were major opinions. Four out of eight participants pointed to the use of multimedia, and four others believed e-portfolios help students organize and present their work. The following are examples of focus group teachers' responses (see Table 10).

Table 10: Focus Group Teachers' Responses

Benefits of EPs	Participants' Words	Participants
Use of Multimedia/ Motivation	TFG1: I think using multimedia and other technology devices makes students' work more interesting and more attractive. TFG2: I think my students will enjoy using music and videos in their portfolios; this is not possible with traditional portfolios.	4/8
Organization/ Storage/ Display	TFG4: I think students can organize and store their work on computers. That could save tons of time wasted on collecting paper. TFG8: I think they will enjoy organizing and storing their work in folders instead of on paper. TFG3: If students use hyperlinks in their e-portfolios that will help them organize or present it in an attractive way.	4/8
Total focus group teachers		8

Overall, all the participants in this study were aware of some of the potential benefits of e-portfolios. The most common advantages of e-portfolios reported by the surveyed teachers were allowing students to record their achievement over time and to publish their work on the web, giving students new ways of presenting their work using technology. For the interviewed teachers, e-portfolios were useful and flexible tools that allowed editing and showcasing, in addition to the use of multimedia, a means of helping students organize their work, track their progress, and save time and paper. For the focus group teachers, the possibility of using multimedia and the possibility of organizing and displaying student work were major opinions.

Challenges or Barriers with E-Portfolio Implementation

Among the many concerns about e-portfolios, the following are six critical issues addressed in Barrett's (2006) questionnaires: lack of sufficient time, adequate access to software, technical support, technical knowledge to protect privacy, adequate training for teachers, and knowledge about computer technologies. The teachers were asked in the questionnaire (Part Three, question 2) to check all that apply in completing the following statement, "Among many concerns about the adoption of e-portfolios would be the lack of…"

The surveyed teachers' responses revealed four concerns held by a majority of the participants. 40 participants (93%) pointed to lack of sufficient time as a major barrier to e-portfolio implementation. Other major concerns noted in their responses were lack of training for teachers (86%), lack of technical knowledge to protect students' privacy (67%), and lack of ICT skills (60%). (See Figure 11.)

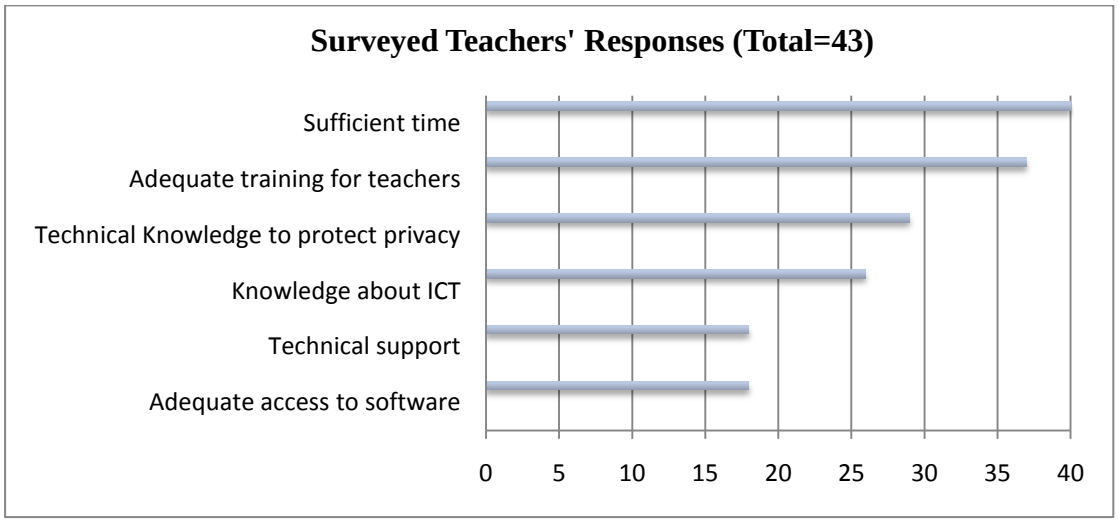

Figure 11: Surveyed Teachers' Concerns

The interview and focus group responses reinforced the questionnaire results about ICT skills and lack of technical knowledge to protect students' privacy. For the interviewed and focus group teachers, students' lack of ICT skills was seen as an issue of concern. 13 out of 18 participants among the interviewed and the focus group teachers felt their students' lack of computer knowledge might hinder e-portfolio implementation. Four other interviewed teachers believed lack of teachers' knowledge to protect students' privacy was a major problem. Only one participant in the focus group raised an important issue that was not mentioned by the rest of the group: the effect on grades. This particular concern about evaluation of weak students being problematic addresses one of the purposes of e-portfolios identified by teachers in the questionnaire, which was evaluation.

The interviewed and the focus group teachers' responses were combined and are presented here according to common views (see Table 11).

Table 11: Interviewed and Focus Group Teachers' Concerns

Concerns about EPs	Participants' Words	Participants (IT=10) (FGT=8)

ICT	IT3: The problem students are not qualified in using technology. Teachers, too. So, both of them, I mean teachers and students, should master technology first. FGT1: My students have no computer skills. Many of them do not even have access to the internet at home.	6/10 7/8
Privacy/ Security	IT6: "The main barrier could be the lack of security… they may be stolen." IT9: "It is the hackers, viruses and how serious are the students towards the e- portfolios' content."	4/10
Evaluation	FGT8: Students who are weak in IT will struggle to make one [e-portfolio]. It will affect their evaluation negatively.	1/8
Total interviewed and focus group teachers		18

A possible barrier to e-portfolio implementation in high schools was lack of technical knowledge to protect students' privacy, as noted by 29 (67%) participants in the questionnaire. The issues of privacy and security were expressed again by an interviewed Emirati female teacher, who pointed to the risk of exposing young Emirati girls to the internet. Her comment is presented here.

> IT7: "I think our own Arab and Emirati culture, ban girls from using the internet and computers for cultural reasons. Actually, they still regard the internet and computer as inappropriate tools, which must not be used by girls."

To increase my understanding of this particular participant's point of view and to find out whether her attitude is a personal choice or an issue of widespread concern for Emiratis, I discussed this issue with her and three other female Emirati teachers in an Emirati group interview. Since MAG school students are almost entirely Emiratis, this concern could be a major barrier to e-portfolio implementation in MAG schools for girls in particular. I asked the four Emirati teachers whether or not using the internet in general and e-portfolios in particular are problematic for girls. Three participants reported that they would like to cope with world technology and they had no problem implementing any innovation in their classrooms.

One Emirati participant pointed to the issue of privacy and security, as noted in her observation.

EIG1: “E-portfolios will increase students’ learning and motivation, but teachers should be careful and tell students not to upload their pictures or telephone numbers.”

Another Emirati participant, who was more knowledgeable in technology, raised the issue of selecting the appropriate system before implementing e-portfolios.

EIG2: “We are teaching teenagers, we have to choose a system that is secure. Security and privacy are real problems here in the UAE. We can purchase a kind of software that is secure in school and students will just add their artifacts, etc. Students can also use the Front page. So, I think for me, choosing the right system guarantees privacy and security.”

Yet another Emirati participant agreed as well, noting that everything depends on the teacher and on the software.

EIG3: “If we are cautious, nothing will happen. On the contrary, I think e-portfolios are good for learning and showing student work, especially to look for jobs.”

The Emirati participant, who had initially raised the issue of privacy and security as a cultural issue, resisted the use of the internet in general and e-portfolios in particular, noting that:

IT7: “After all, we teachers know students better. They will abuse the internet and parents will complain afterwards.”

The Emirati group interview reveals that e-portfolios are potential barriers in girls’ schools in particular if issues of privacy and security are not addressed. This concern reflects the questionnaire findings where 67% of all teachers pointed to lack of technical knowledge to protect the privacy of students in their portfolios as being a possible problem to e-portfolios. Other concerns reported in the questionnaire, in the individual interview responses, and in the focus group responses were lack of time

and lack of adequate e-portfolio training for teachers, in addition to students' lack of ICT skills.

Response to Question 3: "To what extent is e-portfolio integration feasible?"

Teachers' Willingness to Use E-portfolios in the Future

The surveyed teachers were asked to indicate their willingness about future uses of e-portfolios (Part Three, question 3). Two meaningful responses were revealed. 26 (60%) of the participants said they were willing to use e-portfolios in their classes in the future, while 17(39%) of the participants said they were willing to learn about e-portfolios, but they would not use them in the future in their classes. In addition, a total of 22 (51%) participants thought they were willing to support and guide their students with their e-portfolios. The same number of teachers (51%) preferred to examine their students' views before they decide to use e-portfolios in their classes, and to devote time to help students create their e-portfolios (see Figure 12).

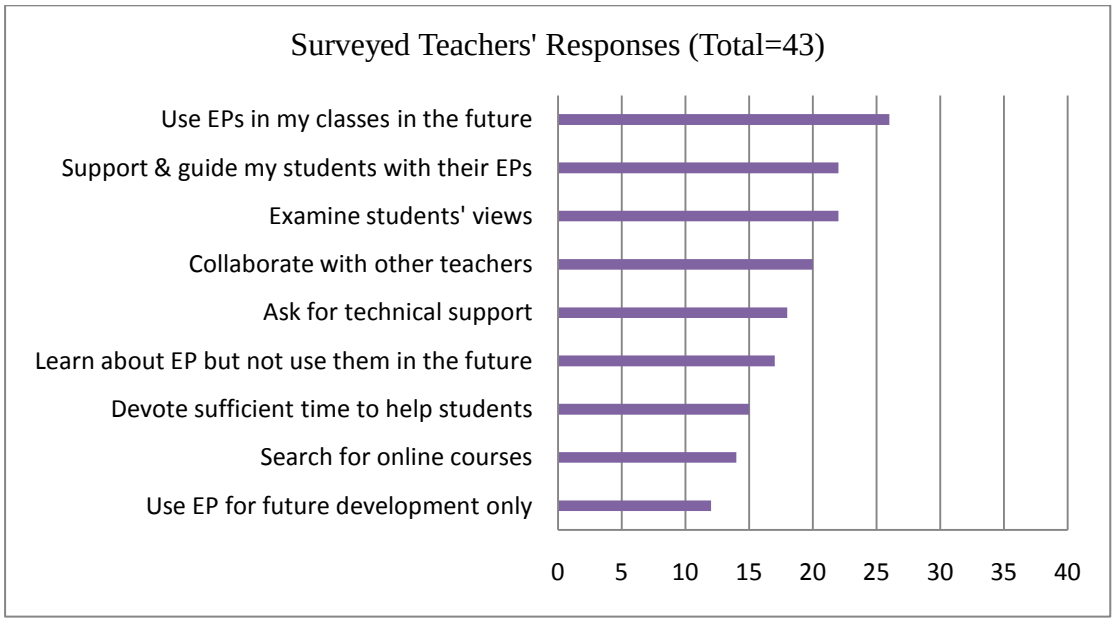

Figure 12: Future Uses of E-Portfolios

Teachers' Portfolio Preferences

If teachers were given the freedom to use either type of portfolio, what would they be likely to choose? This is one of the questions I asked the interviewed teachers in order to understand the reasons for their choices. The interviewed teachers' responses were divided into three different views: Teachers would use e-portfolios,

teachers would keep traditional portfolios, and teachers would use both (see Table 12).

Out of 10, 4 interviewed participants believed they would choose e-portfolios because of the potential benefits they offer, such as use of technology, authenticity, ability to increase in students' sense of responsibility, and the advantage of saving time and paper. Four participants thought they would rather choose paper portfolios and two of them said they would definitely not use e-portfolios. The remaining two participants believed that deciding upon which type of portfolio to incorporate in their classrooms depends on their students' preferences.

Table 12: Interviewed Teachers' Preferences

Possible Decisions	Participants' Words	Participants
E-portfolios	IT4: I would choose e-portfolios as we live in the digital world that would save time for both students and teachers. IT7: "I'd choose electronic portfolio because it increases the responsibilities students have to assume."	4/10
P-portfolios/ Definitely No E-portfolios	IT3: I will not choose e-portfolios because students will not deal with them seriously. IT9: "I won't choose e-portfolio because implementation of e-portfolios requires skill, knowledge, expertise, time, etc."	4/10
Both Portfolios	IT10: "I might use both, I mean students work on their electronic portfolios and should have some printed out materials in case they lost data or lack time to review their work electronically."	2/10
Total interviewed teachers		10

Factors Affecting Teachers' Decisions

As is evident, the interviewed teachers held varying views regarding which type of portfolio to use in their classrooms, and whether e-portfolios make any difference. But what might impact teachers' decisions to choose either form of portfolio? How far did they think they were free to decide upon either form of portfolio? These questions were raised in the focus group discussions.

Focus group teachers' responses about factors affecting choice of portfolio format were categorized into three views: student preference, teacher training, and administration. The first category of teacher responses was the belief that their

choices would definitely depend on their students' needs and preferences. This belief was held by two teachers in the focus group. The second category of responses, which was expressed by two other participants in the focus group, was the belief that the success of e-portfolio implementation would depend on training teachers on how to use e-portfolios. The third category was the belief that their choices would definitely depend on the school administration and the Ministry of Education decisions. Four participants expressed this belief (see Table 13).

Table 13: Focus Group Teachers' Decisions

	Participants' Words	Participants
Student preference	FGT1: It depends on my students' preferences and choices, for me it is okay to choose either type.	2/8
Teacher training	FGT4: We deal with i-Generation. I mean students are high tech, so it is better if every teacher learns about e-portfolios to cope with the world of technology.	2/8
Administration	FGT2: We follow certain criteria that we have from the MAG team and from the Ministry. So if the Ministry wants e-portfolios, we will use them whether we like them or not. FGT3: In the UAE, we are not free to implement the type of portfolios. We apply the type of portfolios according to the orders we get from the supervisors and the administrators in the Ministry of Education.	4/8
Total focus group teachers		8

Teachers' Roles in Decision-Making

Did teachers think they were free to decide either form of portfolio? This is another question raised in the focus group discussion. Teachers' responses to this question were divided into two categories. Out of the eight, two participants did not respond to this question. Two participants complained about their limited role in decision-making. Four participants brought up new themes for discussion relating to teacher time: heavy school workload, release time for teachers, and time needed to learn and apply this innovation.

Table 14: Focus Group Teachers' Concerns

	Participants' Words	Participants
Limited Teacher	FGT2: We are free but to a certain limit because sometimes the supervisors attend our classes to check the process of	2/8

Role	portfolio evaluation, have a look at some of the portfolios and give their opinions that might interfere with ours. FGT3: We do what we were asked to do. If e-portfolios will be forced by the Ministry, we will take courses probably to learn about them.	
Time Concerns	FGT1: If our ILCs want e-portfolios, we will surely use them, but if they do not encourage us to use e-portfolios, so why making ourselves tired? We can still keep traditional portfolios. FGT6: It would be an additional burden for us as teachers. We have many other obligatory things needed to be done on time. Adopting this e-portfolio would take a long time from our students to apply as well as from us to check. FGT7: We need time to teach students and for us to learn how e-portfolios function, but we don't have time. FGT8: This is an extra work, even if we decide to use them, we need training, but probably our schools will not allow all of us to attend it and leave the school out of control.	4/8
Total focus group teachers who responded		6 /8

Generally, when it comes to real use of e-portfolios, these teachers were not very enthusiastic about using any innovation that was not a curriculum requirement. They tended rather to do what they were asked to do in order not to waste time.

Feasibility of E-Portfolios

Based on these teachers' responses, another issue was raised: Are e-portfolios feasible or unfeasible, regardless of factors affecting teachers' decisions to implement e-portfolios?

The surveyed teachers were asked in the second open-ended question "Do you think implementing e-portfolios with your students is feasible? Why? Or why not?" 41 participants answered this question. Out of the 41, 23 participants (56%) supported the idea of e-portfolio integration, 10 participants out of the 23 thought it is conditionally feasible, and 18 participants (44%) thought it was not feasible (see Table 15).

Table 15: Feasibility of E-Portfolios

Open-ended question 2: "Do you think implementing e-portfolios with your students is feasible? Why? Or why not?"

	Feasible	Conditionally Feasible	Not Feasible	No Response	Total
	13	10	18	2	43

The following are examples of the surveyed teachers' responses to open-ended question 2 in the questionnaire, which was about the feasibility of e-portfolio implementation. Teachers' responses were divided into three groups: unconditionally feasible, conditionally feasible, and unfeasible.

A total of 13 participants believed e-portfolios are feasible. Five of these highlighted the role of technology in increasing students' motivation, and two others believed e-portfolios are feasible because they help students organize their work. Still six other participants thought e-portfolios are feasible because they allow students to keep evidence of their work and to record their growth electronically. These participants' comments reflect responses about the benefits of e-portfolios mentioned in the questionnaire, interview, and focus group discussion (see Table 16).

Table 16: Unconditionally Feasible

Reasons	Participants' Words	Participants
Motivation	T14: "Yes, I think implementing e-portfolios is feasible because students can use technology devices, websites and have fun while working on their tasks." T37: "Yes, students nowadays are more interested in computerized work than traditional."	5/13
Organization	T17: "I think yes. They can work and organize their own assignments, worksheets and even their projects and researches. They can have fun with e-portfolios."	2/13
Evidence of work	T31: "Yes, I think implementing e-portfolios is feasible because it helps students to keep evidence for their work and increases their learning."	6/13
Total		13

The ten conditionally feasible teachers gave various reasons to support their views. Three of them pointed to lack of time, two others highlighted lack of access to computers. Still two other participants pointed to the need for training teachers. The remaining two participants raised two important issues: students would not deal with

computers seriously and e-portfolios are not profitable to students' learning (see Table 17).

Table 17: Conditionally Feasible

Reasons	Participants' Words	Participants
Time Concerns	T15: "It is feasible, but the only issue would be time. I think we won't be able to have enough time for support & paper explanation."	3/10
Lack of Access	T19: "Yes, up to a point. However, if we are to work with students in school, we need a reliable internet connections and sufficient access to computers."	3/10
Teacher Training	T11: "Yes, but If time for teacher development and technical training and troubleshooting is available and accessible, then I think it's feasible."	2/10
Other Reasons	T18: "With some students ok, but most students use computers for fun not for work." T32: "It is feasible, but possibly not profitable."	2/10
Total		10

The 18 participants (44%) who believed e-portfolio implementation is not feasible provided various reasons to support their belief. Out of 18, 14 participants anticipated lack of time as a major problem. Two participants anticipated students' lack of computer skills and lack of access to computer technologies as problematic. Two other participants pointed to teachers' lack of ICT skills and technical support (see Table 18).

Table 18: Unfeasible

Reasons	Participants' Words	Participants
Time Concerns	T2: "I don't think so given the amount of time needed in the mentoring and support given to students." T3: "No, It needs a lot of time and great effort, and we can't provide both." T39: "E-portfolios are not profitable. Paper-based portfolios are simpler and offer much the same benefits as an e-portfolio."	14/18

Students' Lack of Access/ ICT Skills	T9: "I don't think so because many of my students don't have computers at home." T13: "No because there are still some students who don't have computers, access to the internet, they simply lack computer skills. Moreover, some students are not good at English."	2/18
ICT/ Technical Support for Teachers	T41: "I don't have adequate knowledge to support my students." T42: "No, because it needs technical support from school."	2/18
Total		17

Based on these 18 teachers' open-ended responses, it is clear that there are major concerns about e-portfolio implementation that affect teachers' decisions, mainly lack of sufficient time to support students with their e-portfolios, students' lack of ICT knowledge and skills, and lack of technical support for both teachers and students.

Further Analysis

In The REFLECT Initiative Research Project Final Report, Barrett (2008) reports that teachers who were competent in terms of computer knowledge and skills and those who had prior experience with p-portfolios were able to successfully implement e-portfolios in their classrooms.

Relating my findings to Barrett's raised two issues for further investigation: Is there a connection in the thinking of all the participating teachers and their knowledge of technology (using Barrett's classification of computer skills as competent, knowledgeable, and good)? Is there a connection between the participating teachers' overall experiences with paper portfolios and their beliefs about whether or not they would adopt e-portfolios in their classrooms in the future?

My investigation began with updating teachers' profiles by adding their computer knowledge, their years of working with both types of portfolios, and their overall experience with p-portfolios (see Appendix F). My intention was to dissect the data in order to come up with possible relationships between the different themes in focus. I utilized the initial questionnaire of Barrett (2006) to sort out a way to categorize and classify the participants accurately according to their levels of computer knowledge and skills. Also, I added the participants' positions vis-à-vis e-

portfolios to find possible connections between teachers' e-portfolio positions and their levels of software expertise.

Data displayed in Table 19 reveals two important findings. First, 17, out of the 18 teachers viewing e-portfolio as unfeasible, knew only common desktop computer tools. Second, both the unconditional supporters and the conditional supporters of e-portfolios had higher skills in computer technologies than those who did not think e-portfolios were feasible. A total of 15 out of 23 teachers viewing e-portfolios as feasible were knowledgeable in terms of computer skills, indicating that they would be likely to be able to build Web portfolios using, for example, Dreamweaver software, FrontPage, or Microsoft OneNote 2007, i-Web. Two of them were skilled in using Web 2.0 tools and hypermedia.

This data clearly indicates a possible connection between attitudes of all the participating teachers toward e-portfolios and their knowledge of technology. More precisely, there is a possible connection between teachers' negative view of e-portfolio feasibility and lack of software expertise. 17 out of 18 teachers viewing e-portfolios as unfeasible had limited knowledge of software programs. This finding echoes the findings of Barrett (2006), who found that teachers' competence in computer technology determines e-portfolio implementation success or failure (see Table 19).

Table 19: Teachers' Software Expertise

Level	Computer knowledge	Feasible	Conditionally Feasible	Unfeasible
Good	Common desktop computer tools (i.e., MSWord, PowerPoint, Acrobat, and others)	5	3	17
Knowledgeable	Web authoring tools to create web page portfolios (i.e., Dreamweaver, FrontPage, Composer, i-Web, Microsoft OneNote 2007)	6	7	1
Competent	Web 2.0 tools (hypermedia programs, blogs, wikis, Google Apps—Docs and Sites)	2	0	0
Total		13	10	18

The second issue raised in this section is a possible connection between the participating teachers' overall experiences with paper portfolios and their beliefs about whether or not they would adopt e-portfolios in their classrooms in the future. In the questionnaire (question 4) the surveyed teachers were asked to rank their overall experiences with student p-portfolios on a scale of one to five (with one as the most negative and five the most positive). All but one participants- the feasible group, the conditionally feasible group, and the not feasible group - were generally satisfied with their overall experiences with p-portfolios to varying degrees. One participant was not very satisfied with his previous experience with p-portfolios and thus selected number 1. This particular participant is in the conditionally feasible group.

Therefore, the data displayed in Table 20 did not indicate any consistent connection between teachers' positions about e-portfolio implementation and their previous experience with paper-based student portfolios. This finding did not agree with the findings of Barrett (2006), who reported that teachers with prior experience with p-portfolios were quick to implement e-portfolios in their classrooms.

Table 20: Teachers' Overall Experiences with P-portfolios

Ranking	Feasible	Conditionally Feasible	Not Feasible
5 (the highest)	2	1	3
4	4	2	4
3	5	4	5
2	2	2	6
1 (the lowest)	0	1	0
Total	13	10	18

Conclusion

In this chapter, I triangulated and analyzed the data collected from the participating groups: the surveyed teachers, the individually interviewed teachers, the Emirati teachers, and the focus group teachers. Analysis of the results was presented for each research question.

The first research question was about what technology adds to the portfolio that the paper version does not provide. 70% of all the participants (70%), as shown in this study, believed technology adds value to portfolios, such as the possibility of organizing students' work, digital storage of artifacts, and the possibility of improving

students' ICT skills. Although 72% of all the participants selected learning as the major purpose of e-portfolios, learning as shown in this study was strictly related to learning some add-on features of technology, mainly digital storage and ICT skills. Moreover, 58% of all participants believed e-portfolios are superior to p-portfolios because of technology, while 27% of all participants believed e-portfolios and p-portfolios are the same.

The second research question was concerned with teachers' personal views as to the benefits and barriers of e-portfolios. The results showed that the participating teachers believed e-portfolios have potential benefits, such as the convenience of recording students' achievement, the use of multimedia, digital storage, and showcasing and organization of students' work. These participants also pointed to the existence of some barriers, mainly lack of sufficient time, lack of technical knowledge to protect students' privacy and security, in addition to lack of adequate ICT training for teachers and students.

The third research question examined the feasibility of e-portfolio implementation in MAG secondary schools from the participating teachers' perspectives. This research revealed that out of 41 surveyed participants responding to the open-ended question, 13 thought e-portfolio implementation was feasible, 10 participants thought it conditionally feasible, and the 18 remaining participants thought it not feasible.

Regardless of teachers' decisions about e-portfolios, this study revealed that 26 (60%) of all the participants were willing to learn about e-portfolios in the future, and 17 (39%) of all the participants felt they would not use them in the future in their classrooms. Issues of concern for all these teachers, were lack of time, privacy and security, need for teacher training, and students' lack of ICT skills.

Findings of this study revealed a possible connection between the views of the participating teachers about e-portfolios and their knowledge of technology. More specifically, there was a possible connection between teachers' view that e-portfolios were not feasible and lack of software expertise. However, the data did not indicate a consistent connection between teachers' positions about e-portfolio implementation and their previous experience with students' p-portfolios.

CHAPTER FIVE

DISCUSSION AND IMPLICATIONS

Summary of the Results

The present study sought to answer the following three questions from the perspective of the participating MAG teachers:

1. What does technology add that the hard copy version of the portfolio does not provide?
2. What are the benefits, challenges or barriers with e-portfolio implementation?
3. To what extent is e-portfolio integration feasible?

This research revealed that 13 participants thought e-portfolio implementation was feasible, 10 thought it conditionally feasible, and 18 participants thought it not feasible. Although a majority of the participants (72%) indicated learning as a major purpose for e-portfolios, their focus was rather on the add-on features offered by technology, such as digital storage, use of multimedia, and publishing. For these teachers, e-portfolios help students to keep their work neat, well organized, and ready for display. E-portfolios also allow them to use multimedia and text hyperlinks. E-portfolios were also perceived by these teachers as archives or folders for documentation of students' achievement over time. Learning as reflected in teachers' responses was not related to language learning but rather to learning the add-on features of technology. Some of the comments by the participants who were against e-portfolios were that there were no educational benefits and that e-portfolios add cost and complications.

The literature about e-portfolios points to showcasing and publishing as beneficial. However, the literature also highlights two fundamental values of having e-portfolios not mentioned by these teachers, which are promoting reflective lifelong learning, and increasing critical thinking skills (see Barrett, 2007, Barrett, 2010; Butler, 2006; Currant et al., 2006). Although 26 teachers in this study listed learning as a major purpose of e-portfolios, only 11, out of 41 teachers responding to the open-ended question, thought e-portfolios would enhance reflective learning.

Time Constraints

Lack of sufficient time to learn the software and to support students with their e-portfolios, was a major concern for 40 (93%) participants in this study. The time issue was raised in three data sources: the questionnaire, the individual interviews and the focus group discussion. Also, both teachers who were conditionally positive about e-portfolios and teachers who were against them pointed to time as a possible barrier to e-portfolio implementation in their schools. These teachers' comments about time constraints coincide with other research about e-portfolios. Currant et al. (2006) believe that "time is a key factor for both users" (p. 8). They explain that both learners and tutors need time to record and reflect on their experiences and on the educational potentials of e-portfolios.

Privacy and Security

Teachers' lack of technical knowledge to protect students' privacy was a possible barrier to e-portfolio implementation raised by 67% of the participants in the questionnaire. This concern was also highlighted again in the Emirati group interview. In MAG schools, the vast majority of the students are Emiratis, so the issues of privacy and security might be an Emirati concern if e-portfolio implementation conflicts with parents' expectations. Emirati culture is greatly concerned about protecting young girls from the potential dangers of technology in general and the internet in particular. However, the issues of privacy and security might be less of a concern for non-Emiratis who come from a gender-neutral perspective without the gender role differentiation emphasized in Emirati culture. The Emirati interviewees pointed to the issue of privacy and security as potential problems with successful e-portfolio implementation in UAE MAG schools for girls. They believed schools should be cautious about which system or software program to use.

This concern can be linked to the findings of Redecker et al. (2009) and Currant et al. (2006) regarding the use of Web 2.0 tools in education. Redecker et al. point out that "educators need to make sure that the identities of their learners are protected…and that their intellectual property rights are respected" (p. 12), while Currant et al. (2006) suggest that educators should find ways on how "to address safety and security and privacy concerns" (pp. 12-13).

Lack of Training and Technical Support

Other major concerns identified in this research were teachers' and students' lack of technology skills and technical support. These results are similar to the REFLECT Initiative Research Project directed by Barrett (2008), who summarized

teachers' major concerns with e-portfolios in the project's final report as follows: time, competing priorities, technical problems, and lack of technological e-portfolio proficiency.

Teachers' Limited Knowledge of ICT Skills

In this research, there is evidence of a possible connection between the thinking of all the participating teachers and their knowledge of technology. More specifically, there is a consistent connection between teachers' views that e-portfolio implementation is not feasible and their lack of software expertise. Teachers' limited knowledge of ICT skills was also a major concern among the interviewed and the focus group teachers in this study. Many participants believed that their lack of ICT skills might hinder successful implementation of e-portfolios in their classrooms, a view mentioned by Currant et al. (2006) and Barrett (2006). Currant et al. (2006) suggest that "time and training need to be provided for staff/ tutors/ supervisors to enable them to support students effectively and make the most effective use of all the 'affordances' offered by the technology" (p. 8). Barrett (2006) noted that teachers' competence in computer technology determines e-portfolio implementation success or failure.

The Cost of E-Portfolios

Another interesting finding reported by one of the participants in this research is that e-portfolios are costly and not profitable, and that it is better to keep the paper version of portfolios instead. This view echoes the findings of Lombardi (2008) who points to the cost of e-portfolios as problematic in e-portfolio implementation. However, this view is controversial, as the literature about e-portfolios listed a number of non-profit web pages useful for developing e-portfolios (see Al Kahtan, 1999; Barrett, 2000).

Teachers' Limited Role in Decision-making

The focus group discussion raised an interesting point regarding whether teachers were free to decide which type of portfolio to adopt in their classrooms. For these teachers, the teacher's decision-making role was confined to classroom practices, and deciding upon which type of portfolio to consider was in the hands of other stakeholders, mainly the Ministry of Education and the school administration. Although the literature about e-portfolios highlights the critical role of the teacher in successful implementation of e-portfolios, very few studies about e-portfolios, if any, raised this issue of teachers' involvement in decision-making. Nonetheless, literature

about curriculum development, reflective teaching, and school organizations and structures points to this issue of teacher involvement (see Crookes, 2003; Richards, 2001). For example, Crookes (2003) notes that "schools in most countries are part of hierarchical structure with power concentrated in the upper levels. Established patterns of school organization and management …allow little teacher input into school-wide policy" (p. 184). Crookes explains that "major decision-making is in the hands of a principal, head, or (a more recent term) CEO – Chief Education Officer" (pp.184-185).

Implications of the Study

This study revealed that half of the participating teachers think e-portfolios are feasible in Cycle 3 schools if teachers' concerns are addressed. This study also indicated that although these teachers show awareness of educational benefits of e-portfolio use, they were not aware of one of the main purposes of having e-portfolios, which is reflective learning. Thus, for successful implementation, if it is decided to introduce e-portfolios, the following actions must be taken into account to guarantee success:

(1) Teachers should first be oriented towards the main purposes of implementing e-portfolios in their classrooms.

(2) Teachers need to be encouraged and supported and not have new measures imposed on them.

(3) Teachers should be provided with practical training programs about e-portfolios to help them increase their proficiency levels in computer technologies, and thus enable them to support their students.

(4) Teachers should be provided with sufficient time to help their students create their own portfolios.

(5) Teachers' time constraints need to be recognized. Administrators should not add this training on top of teachers' busy schedules. They should provide teachers with release time necessary to attend professional training sessions about e-portfolios

Implications for Teachers

Based on the findings of this study, teachers are advised to understand the concept behind various purposes of student e-portfolios, and have a clear understanding of a teacher's role in enhancing e-portfolios in classrooms before

making any decisions about e-portfolio implementation.Teachers, in this case, might need professional training sessions about e-portfolios, first, to understand the various purposes of using e-portfolios, and second to be able to teach their students how to create their own e-portfolios.

In addition, teachers should be aware that technology should not be used for its own sake; it should rather be employed to facilitate and increase learning. Woodward and Nanlohy (2004) suggest that "A balance must be sought so that the fundamental value of developing a portfolio is maintained" (p. 229).

Implications for Professional Development

Through professional training sessions about e-portfolios, teachers can come to understand the potential that e-portfolios have and decide how to use them in their classrooms effectively and purposefully. Such professional training programs can also be very beneficial for teachers interested in developing their ICT skills and in learning more about teaching with technology. These professional training programs are important for teachers because they contribute to building confidence and trust for teachers who are frustrated with technology. Teachers' confidence would then affect their performance in teaching their students how to create and update their e-portfolios. However, for teachers to receive ICT training sessions, release time should be granted to them.

Implications for MOE School Administrators

In light of teachers' concerns about lack of ICT training, policy makers and administrators are encouraged to launch training programs about integrating technology in Cycle 3 classrooms. Many teachers, Emiratis and expatriates might be interested in teaching with technology but lack support and services.Training these teachers can help them achieve effective teaching and help them understand the potential of various technology devices in general and e-portfolios in particular.

In addition, the UAE is a country that believes in the power of technology and encourages educators to keep pace with the latest changes in the world of modern technology. As highlighted in UAE 2021 vision published in 2010, "Individual citizens will also reap the benefits of efficient connectedness in their digital lives as they search online for knowledge and the fulfillment of intellectual curiosity" (Vision 2021, p. 18). In addition, the UAE Ministry of Education Strategy 2010–2020

(published in 2009) emphasizes the necessity of developing "IT systems for the ministry, zones and schools" (p. 20).

Therefore, policy makers and administrators need to devote part of their training programs and resources to exploring the use of technology in secondary education. The administrators' support for teachers is vital to successful implementation of any innovation. In this regard, Barrett (2008) notes, "A supportive administrator is essential to the success of any major change initiative" (p.13). Therefore, school administrators need to create a climate where teachers are empowered to take initiatives and to do more than just what they are told to do. This view is held by Crookes (2003) who points out, "Teachers with a change orientation need to take steps to secure positions of influence…S/FL teaching, and schools, still do not get the respect they deserve given the importance of what they do" (p. 202).

Also, the surveyed teachers and more specifically the Emirati female teachers in the group interview raised issues of privacy and security as potential barriers to e-portfolio implementation. Therefore, school administrators need to address ethical and security issues when deciding upon which e-portfolio system to purchase and adopt in their schools. Redecker et al. (2009) highlight the issues of privacy, identity, trust, and reputation as major concerns for Web 2.0 users, while Lombardi (2008) points to the issue of privacy as problematic for e-portfolio users in high schools. Barrett (2010) also suggests a number of multimedia authoring software programs that are most appropriate for high schools in terms of practicality, ease of use, security, and privacy.

Implications for the MAG Program

In MAG schools, a Teacher's Appraisal System was created to ensure effective teaching and to promote opportunities for teachers' continual professional development. However, the MAG Team needs to take time concerns of teachers into account by collaborating with the school administrators to provide teachers with teacher release time. Richards (2001) discusses the issue of release time in schools:

> If teachers are expected to play a key role in some aspect of the program such as materials development or mentoring, they may need to be given release time from teaching to enable them to devote time to this. This acknowledges the value with which the institution regards such activities. (p. 213)

Therefore, the MAG program needs to cooperate with the schools to allow teachers release time and encourage teachers to attend professional training sessions on teaching with technology in general and e-portfolios in particular.

Limitations of the Study

One limitation of the study was that the participants were only from three educational zones. I had intended to distribute my surveys among more than three educational zones, but teachers in other zones were busy with their school events and could not participate. Therefore, my study focused only on six schools in three educational zones.

Another limitation in this study is that there was no actual implementation of e-portfolios in Cycle 3 MAG schools during the time of this research. Therefore, observation was excluded from the research instruments. Ideally, I could have had different findings if I had observed teachers while supporting their students with e-portfolios. I could have fully replicated Barrett's study on e-portfolios if MAG teachers had integrated e-portfolios. However, some of the teachers who participated in this study used e-portfolios for their own professional development only, while others had no prior knowledge of e-portfolios.

Another limitation is that the Emirati informal interview group included only four Emirati teachers. It would have been more interesting if more Emirati teachers had participated from numerous educational zones in different regions, especially since the points raised in the informal interview were of concern to all Emiratis. This informal Emirati interview group consisted of four teachers from only two schools in one educational zone. Also, only including female Emirati teachers of English was a limiting factor. No male Emirati teachers were interviewed. A more complete investigation of Emirati concern about this issue would provide needed insight.

The population of this study consists mostly of teachers in rural areas of the UAE. A more diverse representation of teachers from urban and rural areas could have elicited a broader overview of this issue for Emiratis in the UAE.

Unlike female interviews, male interviews were taken from my notes as they were held through the telephone. Recording male interviews could have yielded more accurate male teachers' views about e-portfolios.

Directions for Further Research

Research in this field is relatively new, so I recommend that researchers interested in e-portfolios further explore the feasibility of e-portfolio implementation in K-12 classrooms from students' perspectives, as well as from other stakeholders' perspectives, i.e., school administrations, the Ministry of Education, the MAG

Program. In addition, future studies could focus on student teachers who have already worked on e-portfolios, and investigate their views and perceptions of the usefulness of e-portfolios.

One of the Emirati participants reported that using the internet by young girls is not appropriate to UAE culture and norms, while three other Emirati participants pointed to issues of security and privacy. These particular issues, which were discussed in the literature about Web 2.0 and e-portfolios, could be further explored in future studies in the UAE context. Specifically, is there a difference in views of internet use in schools in different regions in the UAE? What do Emirati parents think of this concern?

Another point to be further explored in schools is the role of the teacher as the agent of change in UAE high schools. I noticed from the focus group discussions that the teacher's role was, reportedly, very limited in decision-making and that teacher creativity and self-initiative were not encouraged. Crookes (2003) points to the institutional structures and reflective teacher development in ESL/EFL contexts, noting that teachers' roles are limited because of the hierarchical structure of their schools, adding that this kind of school management does not encourage professional development, teamwork, and creativity. Future studies on schools' organizations and structures in UAE high schools, in particular, and their impact on teachers' professional development, could also investigate this particular point of interest.

One of the participants in the focus group raised an important issue that was not mentioned by the rest of the group. He reported that some students, who had very limited ICT skills, would struggle to build e-portfolios. These students' lack of ICT skills which results from cultural and socio-economic factors might create educational disparities among students. Thus, unfairness in evaluation as a result of e-portfolios could be an issue of concern. The literature about e-portfolios (Edmundson, 2003; Williams, 2007) points to the issue of inequities due to cultural differences and socio-economic differences. However, the issue of e-portfolios potentially affecting students' grades might need to be further explored in future studies.

This study showed that teachers were not aware of one of the fundamental purposes for having a student e-portfolio, which is promoting reflective learning. This particular area could be further explored in future studies about e-portfolios in the UAE and the Gulf region. A final point of interest is that increased student-teacher interaction with e-portfolios needs to be further addressed in future research.

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Appendix A: Teachers' Questionnaire

Dear Participant,
I am currently working on a research project about electronic portfolios for my TESOL Master's degree. I would be grateful if you would take part in this survey. Your answers will be used for research purpose and your identity will remain confidential.

Part One:

Male [ ] Female [ ] Age 25-30 [ ] 31-40 [ ] 41- 50 [ ] 50+ [ ]

Nationality: ……..…… School: ……..….

Grade Levels You Teach Now…… Years of Teaching Experience… ……

Part Two:

1. How long have you worked with portfolios? (Check one in each column)

	A. Paper-based portfolios	B. Electronic portfolios
None	[ ]	[ ]
Just starting (less than a year)	[ ]	[ ]
Some experience (1-3 years)	[ ]	[ ]
Lots of experience (3+ years)	[ ]	[ ]

2. What do you perceive to be the purposes of having a student electronic portfolio?

(Check all that apply)

[ ] Learning [ ] Planning

[ ] Assessment [ ] Evaluation

[ ] Showcasing work [ ] Others/ Specify _____

3. Which of these programs are you familiar with?

(Check all that apply)

[ ] PowerPoint	[ ] Dreamweaver	[ ] Hypermedia programs
[ ] FrontPage	[ ] Acrobat	[ ] Microsoft Office OneNote 2007
[ ] MS Word		[ ] Others: _____

4. On a scale of 1-5 (with 1 being the lowest and 5 being highest), how would you rate the overall quality of your experience with students' traditional portfolios?

(Please answer by selecting the number that best describes your experience)

[ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5

(Lowest) (Highest)

5. Do you think electronic portfolios are more powerful and more convenient than paper-based portfolios?

[ ] Definitely yes [ ] Yes [ ] No [ ] Definitely no

6. Do you think your students would prefer to work on e-portfolios rather than on paper-based portfolios?

[ ] Definitely yes [ ] Maybe [ ] I don't know [ ] Definitely no

7. Student electronic portfolios are useful for students after graduation in ……. (Check all that apply)

[ ] business studies [ ] job interviews [ ] overseas studies

Part Three: (Check all that apply)

1. Working on electronic portfolios would.....

[ ] make my students more interested in portfolios than they were before

[ ] give my students more responsibility for their learning.

[ ] help them organize and present their work.

[ ] give them enough space to store material.

[ ] allow them to publish their work on the web.

[ ] help them to show others what they are really good at.

[ ] give them new ways of presenting their work using technology.

[ ] help my students to reflect on their learning and see what they are good at and where they need to improve.

2. Among my concerns about the adoption of e-portfolios would be the lack of …

[ ] sufficient time to support my students with their electronic portfolios.

[ ] adequate access to software needed to implement electronic portfolios.

[ ] adequate access to technical support in our school.

[ ] technical knowledge to protect the privacy of students in their e-portfolios.

[ ] adequate training for teachers to support students with their electronic portfolios.

[ ] knowledge and skills about computer technologies.

[ ] Other/ Specify _____

3. Regarding the possibility of using e-portfolios in my classrooms, I am willing to…

[ ] use e-portfolios in my classes in the future.

[ ] support and guide my students with their e-portfolios.

[ ] devote sufficient time to help students create their e-portfolios.

[ ] ask for technical support to facilitate the implementation of e-portfolios.

[ ] search for online courses to equip me to help my students with their e-portfolios.

[ ] collaborate with other teachers to learn more about students' e-portfolios.

[ ] examine students' views before I decide whether to use e-portfolios in my classes.

[ ] use e-portfolios for my future professional development only.

[ ] learn about e-portfolios, but I do not think I will use them with my students in the future.

Please answer the following questions:

1. In your opinion, what are the purposes of having student e-portfolios in Cycle 3 schools?

2. Do you think implementing e-portfolios with your students is feasible? Why? or why not?

You have reached the end of the survey. Thank you for your cooperation!

Appendix B: Teachers' Interview

1. What is an electronic portfolio? What is the main purpose of having student e-portfolio?
2. What do you see as the major benefits, if any, of having a student e-portfolio? 3. What do you see as the main barrier, if any, to student e-portfolio implementation?
4. Based on your experience with student paper-based portfolios, do you think incorporating e-portfolios will make a difference in terms of students' interest and motivation?
5. If you were given the freedom to use either kind of portfolio with your students, would you choose traditional portfolios or e-portfolios? Why?
6. If you decide to incorporate e-portfolios with your students as an assessment tool, how, would you assess them?
7. If you decide to incorporate e-portfolios with your students, what kind of program software will you employ?
8. To what extent, do you think, is student e-portfolio implementation feasible?

Appendix C: Emirati Teachers' Group Interview

1. Do you think e-portfolio implementation is harmful for Emirati students?
2. Do you have any previous experience with portfolios of any type? Was it good or bad?
3. Do you have any concerns and/or recommendations for users and non-users of e-portfolios in UAE schools?

Appendix D: Teachers' Focus Group Discussion

The researcher gave a presentation on e-portfolios entitled "Incorporating e-portfolios: Benefits, Challenges and Future Possibilities" in her current school. The follow-up discussion questions revolved around these issues of concern:

- What went wrong with paper-based portfolios?
- What were the major/minor problems of having students' portfolios?
- What do you know about e-portfolios?
- What might be the benefits of having student e-portfolios?
- What might be the challenges of having student e-portfolios?
- How do you evaluate your experience with portfolios (of any kind)?
- What might impact your decision to choose either form of portfolio?
- How far, do you think, are you free to decide either form of portfolio?
- What might be some concerns you have about e-portfolio adoption?
- To what extent, do you think, is student e-portfolio implementation possible?

Appendix E: E-portfolio Workshop

(Thursday February 24, 2011)

E-portfolios: Benefits, Challenges & Future Possibilities

Presented by: Faiza Tabib
(MOE TDS)

Origin & Definition:

- What is an e-portfolio?
- Why are they so popular among young learners?

An e-portfolio is a "collection of authentic and diverse evidence, drawn from a larger archive representing what a person or organization has learned over time"

Barrett (2007)

E-portfolios are so popular:
1. easy to arrange, edit & combine materials
2. Allow the use of multimedia
3. Allow the use of hyperlinking to connect documents
4. Allow flexibility, accessibility & portability

5. Allow digital storage and instant feedback.
6. Increase students'motivation & ICT skills.
7. Increases reflective lifelong learning
8. Increases critical thinking.

What might be the challenges of e-portfolios?

Possible Problems:
1. Some e-portfolio systems & software programs are costly.
2. Lack of technology provision in schools.
2. Lack of technical support
3. Lack of ICT skills
4. lack of students' interest

How can teachers learnabout e-portfolios?

See Barrett's online Website

http://electronicportfolios.com/web20portfolios.html

Why e-portfolios?

Our societies are heading into the digital world.
E-portfolios are becoming a social "gizmo"
Students are comfortably using technology. So, why not e-portfolios?

Please take 10 minutes to reflect on the presentation and share your reflections with your colleagues.

Please, read the guideline questions for the follow up-discussion, and be ready to share your opinions!

Appendix F: The Surveyed Teachers' Profiles

Code	Gender	Age	Years of Working with Paper PPortfolios	Years of Working with EPs	ICT Skills	Experience with Paper Portfolios	E -Portfolio Feasible?
T1	M	41-50	3+	1-3 years	Knowledgeable	Average	Yes
T2	F	25-30	> 1 year	None	Good	Average	No
T3	F	25-30	1-3 years	None	Good	Average	No
T4	F	25-30	1-3 years	None	Good	Poor	NR
T5	F	25-30	1-3 years	1-3 years	Knowledgeable	Poor	CF
T6	M	41-50	1-3 years	None	Good	Very good	No
T7	F	25-30	3+ years	1-3 years	Good	Very good	No
T8	F	31-40	3+ years	None	Knowledgeable	Average	CF
T9	F	31-40	1-3 years	None	Good	Average	No
T10	F	31-40	3+ years	None	Knowledgeable	Average	Yes
T11	F	25-30	1-3 years	None	Good	Average	CF
T12	F	25-30	1-3 years	None	Knowledgeable	Very good	NR
T13	M	31-40	>1 year	None	Good	Fair	No
T14	F	41-50	3+ years	1-3 years	Good	Very good	Yes
T15	M	41-50	3+ years	1-3 years	Knowledgeable	Very good	CF
T16	M	41-50	1-3 years	None	Good	Average	Yes
T17	F	25-30	>1 year	None	Good	Fair	Yes
T18	M	31-40	1-3 years	None	Knowledgeable	Fair	CF
T19	F	41-50	3+ years	1-3 years	Knowledgeable	Very good	CF
T20	M	41-50	3+ years	1-3 years	**Competent**	Fair	Yes
T21	F	31-40	3+ years	None	Good	Excellent	CF
T22	F	25-30	1-3 years	1-3 years	Good	Fair	No
T23	F	31-40	3+ years	>1 year	Good	Excellent	No
T24	F	25-30	3+ years	>1 year	Good	Excellent	No
T25	M	50+	3+ years	None	Good	Very good	Yes
T26	M	31-40	1-3 years	None	Good	Average	CF
T27	M	50+	3+ years	None	Good	Very good	No
T28	M	31-40	3+ years	None	Good	Excellent	Yes
T29	M	51+	3+ years	None	Good	Fair	No
T30	F	25-30	> 1 year	None	Good	Fair	CF
T31	F	25-30	3+ years	1-3 years	Knowledgeable	Very good	Yes
T32	F	31-40	3+ years	1-3 years	Knowledgeable	Average	CF
T33	M	41-50	3+ years	None	Knowledgeable	Very good	Yes
T34	M	31-40	1-3 years	None	Good	Fair	No
T35	M	25-30	3+ years	1-3 years	Knowledgeable	Excellent	Yes
T36	F	25-30	1-3 years	None	Knowledgeable	Average	Yes
T37	M	31-40	3+ years	1-3 years	**Competent**	Average	Yes
T38	F	50+	3+ years	None	Good	Excellent	No
T39	F	31-40	1-3 years	None	Knowledgeable	Fair	No
T40	M	31-40	3+ years	None	Good	Average	No
T41	M	*	1-3 years	None	Good	Average	No
T42	M	31-40	3+ years	None	Good	Very good	No
T43	M	41-50	1-3 years	None	Good	Fair	No

Appendix G: Other Participants' Profiles

A- The Interviewed Teachers' Profiles

Code	Gender	Nationality	Years of Teaching Experience	Grade Levels They Teach Now
IT1	M	Egyptian	25	12
IT2	M	Egyptian	12	11
IT3	M	Syrian	26	12
IT4	M	Tunisian	20	11
IT5	M	New Zealander	12	12
IT6	F	Jordanian	20	11
IT7	F	Emirati	First year	10
IT8	F	Emirati	11	12
IT9	F	British	19	11
IT10	F	Canadian	15	11

B- The Focus Group Teachers' Profiles

Code	Gender	Nationality	Years of Teaching Experience	Grade Levels They Teach Now
FGT1	M	Egyptian	25	12
FGT2	M	Jordanian	20	12
FGT3	M	Jordanian	15	11
FCT4	F	South Africa	22	11
FCT5	F	Irish	16	12
FGT6	F	Egyptian	20	12
FGT7	F	Jordanian	8	10
FGT8	F	Palestinian	10	10

C- Emirati Interviewed Group Teachers' Profiles

Code	Gender	Nationality	Years of Teaching Experience	Grade Levels They Teach Now
EIG1	F	Emirati	7	11
EIG2	F	Emirati	4	11
EIG3	F	Emirati	First Year	11
IT7	F	Emirati	First Year	10

Appendix H: The Surveyed Teachers' Open-ended Responses

Code	Gender	Age	Nationality	Is an E P Feasible?	**Teachers' Responses to Open-ended Questions, copied without editing.** **Q1**: "In your opinion, what are the purposes of having student e-portfolios in Cycle 3 schools?" **Q2**: "Do you think e-portfolio implementation is feasible? Why? Or why not?"
T1	M	41-50	Egyptian	Yes	Q1; "Learning, evaluation, offering students an opportunity to show their abilities in using technology." Q2: "Yes, because the tech tools are available, students will like that."
T2	F	25-30	Emirati	No	Q1: "To make students more interested and it may evaluate students/or reflect on their learning (improvement of their skills." Q2: "I don't think so given the amount of time needed in the mentoring and support given to students."
T3	F	25-30	Emirati	No	Q1: To improve their computer skills, attracts high achiever students and keeps them busy." Q2: No, it needs a lot of time and great effort, and we can not provide both."
T4	F	25-30	Emirati	Yes	Q1: No Response Q2: No Response
T5	F	25-30	Emirati	NR	Q1: "To keep their work and help them to present their work in future for job or university." Q2: It's feasible but it needs more time from T & students."
T6	M	41-50	Egyptian	No	Q 1: "Paper-based portfolios accomplish the same thing, but e-portfolios might be more beneficial because of technology use." Q2: No, due to the lack of time because of the heavy duty teacher has!."
T7	F	25-30	Emirati	No	Q1: "It could help to improve my students' skills in learning and education." Q2: "I don't think so, cause some of my students don't have computers at home and some schools don't provide such services at school."
T8	F	31-40	Tunisian	Yes	Q1: No Response Q2: "Yes, but students don't have access with the net and sometimes they find it difficult to work on their portfolios besides and what they are required to do."
T9	F	31-40	Syrian	No	Q1: "I think it is a technical means to organize and present work by students." Q2: "I don't think so because many of my students don't have computers at home. Also I don't think teachers have time."
T10	F	31-40	Tunisian	Yes	Q1: "To help ss reflect on their work." Q2: "Students usually are irresponsible. Therefore, having such a kind of portfolio can increase their sense of responsibility. They can record their growth in each semester."
T11	F	25-30	Emirati	NR	Q1: "Definitely, e-portfolios will save time and paper." Q2: "Yes, but if time for teacher development and technical training and troubleshooting is available and accessible, then I

					think it's feasible."
T12	F	25-30	Emirati	Yes	Q1: "To store material, to show their achievement." Q2: No Response.
T13	M	31-40	Jordanian	No	Q1: "To store material, to show their achievements." Q2: "**I don't believe in e-portfolios."**
T14	F	41-50	Emirati	Yes	Q1: "To store material, to show their achievements." Q2: "No because there are still some students who don't have computers, access to the internet, they simply lack computer skills. Moreover, some students are not good at English**."**
T15	M	41-50	Egyptian	Yes	Q1; 'Connect learning with real life experience/create self directed learning, reflections & assessment, promote creativity." Q2: "Yes, I think implementing e-portfolios is feasible because students can use technology devices, websites and have fun while working."
T16	M	41-50	Egyptian	Yes	Q1: 'I think e-portfolios help students who are good at computer to show their skills in computer and in using multimedia." Q2: "It is feasible, but the only issue would be time. I think we won't be able to have enough time for support & paper explanation."
T17	F	25-30	Emirati	Yes	Q1: "E-portfolios can be a perfect tool in the learning process that can serve a lot for the teacher as well as the student in the assessment." Q2: "Yes, everyone is good at computer nowadays."
T18	M	31-40	Jordanian	Yes	Q1: "E-portfolios can be a perfect tool in the learning process that can serve a lot for the teacher as well as the student." Q2: "I think yes. I mean why not. Many of my students like working on computer, so instead of wasting their time on crabs they can work and organize their own assignments, worksheets and even their projects and researches. They can have fun with e-portfolios."
T19	F	41-50	Irish	Yes	Q1: "Most of the new era students are aware of the best ways to access the different programs on computer and it is a finger click distance to prepare a LONGLIFE PORTFOLIO. In addition, the software version of computer definitely secure the students work. Unlike paper portfolios, damage possibility is very occasional and can be avoided." Q2: "With some students ok, but most students use computers for fun not for work."
T20	M	41-50	Egyptian	Yes	Q1: "As in the case of traditional portfolios, or learning and assessment purposes- also for future planning. The students are part of the iGeneration, technology is part of their lives- their whole way of living is bound up with technology so should their portfolios." Q2: "Yes- up to a point. However, if we are to work with students in school, we need a reliable internet connections and sufficient access to computers."
T21	F	31-40	Jordanian	Yes	Q1: "Train our students for their tertiary education/a way of motivation for some students." Q2: "Yes, Students nowadays like technology."
T22	F	25-30	Emirati	No	Q1: "To assess students. Also, they are interested in using the

					computer so they will like this idea. They will learn lots of staff." Q2: "It is feasible, but it needs a lot of time and effort."
T23	F	31-40	Emirati	No	Q1: "To assess students. Also they are interested in using the computer so they will like this idea." Q2: "I don't believe a lot in e-portfolios, plus we don't have time for these things."
T24	F	25-30	Emirati	No	Q1: "To prepare them for their careers in the future." Q2: "I don't think so because there is no sufficient time."
T25	M	50+	Syrian	Yes	Q1: "To support them at the university." Q2: "No, because there is no time."
T26	M	31-40	Jordanian	Yes	Q1: "E-portfolio for students is a main part in their educational process continuity." Q2: "Yes, everyone likes working on computers."
T27	M	50+	Tunisian	No	Q1: "E-portfolios would be useful in preparing sts for higher education & future careers." Q2: "In terms of my students ok, but other teachers in my school will not accept that."
T28	M	31-40	Jordanian	Yes	Q1: "E-portfolios would be useful in preparing sts. For higher education & future careers." Q2: "No, because there is no time."
T29	M	51+	Palestinian	No	Q1; "Help students to keep their work and show others their improvements." Q2: " I think all students like computers, and it is a smart idea to help students keep evidence of their work/growth."
T30	F	25-30	Emirati	Yes	Q1: "Preparing students for implementing e-portfolios in their higher education." Q2: "Not feasible, it needs a lot of time and effort."
T31	F	25-30	Emirati	Yes	Q1: 'Prepare students for the challenges they will face after graduation. Teach them how to be responsible and how to use the computer technologies." Q2: "It would be feasible if we adopted it for Cycle 2, To do so in Cycle 3 would ask for manpower, time, expertise & technical support that we lack at this point."
T32	F	31-40	South Africa	Yes	Q1: "I think they will be useful for ss to learn and record their work." Q2: "Yes, I think implementing e-portfolios is feasible because it helps students to keep evidences for their work and increases their learning."
T33	M	41-50	Palestinian	Yes	Q1: "Evidence of the proficiency level of the student. A portfolio should act as proof of English communicative ability." Q2: "Yes, it is feasible, students can record their growth overtime. I mean they keep record of their achievements over a period of three or four months or whatever electronically."
T34	M	31-40	New Zealander	No	Q1: Same as paper-based portfolios, plus technology." Q2: Costly and not profitable. Paper-based portfolios offer much the same benefits as an e-portfolio."
T35	M	25-30	Syrian	Yes	Q1: "To store their work for the future." Q2: "Yes, it is feasible, students can record their growth overtime. I mean they keep record of their achievements over a period of three or four months or whatever electronically."
T36	F	25-30	Emirati	Yes	Q1: "I believe that the e-portfolios are very important for students to know how to do great portfolios by using

					technology. It's help them to organize their works into files or a period of three or four months or whatever electronically." portfolios." Q2: "Very possible. Why not? Most of our learners lead a technology life. They are more capable of using the computer facilities than their teachers. They are enthusiastic and excited towards using it in their life. I think we have to exploit this enthusiasm towards technology in more positive language learning."
T37	M	31-40	Egyptian	Yes	Q1: "To save paper and time." Q2: "Yes, students nowadays are more interested in computerized work than traditional."
T38	F	50+	Canadian	No	Q1: "Same as paper-based portfolio – additional purpose To be current, using the technology." Q2: "Given The current use (or lack thereof) in my school I think it would not be feasible."
T39	F	31-40	British	No	Q1: No Response Q2: "E-portfolios are not profitable. Paper-based portfolios are simpler and offer much the same benefits as an e-portfolio."
T40	M	31-40	Syrian	No	Q1: "It is good for them to be ready for college study and research." Q2: "I don't think so because Ss won't deal with this seriously. Probasbly, we will not have time for that."
T41	M	____	Jordanian	No	Q1: May be to prepare them to university, or after graduation as well as keep them up-to-date regarding technology usage." Q2: "I.don't have adequate knowledge to support my students.plus no time to apply."
T42	M	31-40	Jordanian	No	Q1: "To organize their work." Q2: ".No, because it needs technical support from school and I think students will focus on the surface of having e-portfolios not in learning English!"
T43	M	41-50	Jordanian	No	Q1: No Response Q2; "No. We do not have suffcienct time. Some teachers do not know a lot about computers."

VITA

Faiza Tabib earned her BA in English LiteratureJune 1994 from the University of Language and Arts, Tunis, Tunisia. Faiza enrolled in full semester training program, on teaching English to ESL/EFL at the University of East Anglia, England-UK. After working as a secondary teacher in Cycle 3 MAG schools, Faiza is currently promoted to the position of a Teacher Development Specialist (TDS). Faiza's interest is to train the trainers in the Gulf region, and share her long experience in teaching with newly qualified Emirati teachers.