

# E-portfolios

## What, Why & How

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# Contents

Abstract	3
Acknowledgments	3
Introduction	4
Literature Review	6
◆ Empowerment	6
◆ Portfolios	7
◆ E-portfolios	9
Methodology	11
Method	11
Data Analysis	17
◆ Learners	17
◆ Teachers	23
◆ Parents	29
Conclusions	35
References	37
Appendices	40
◆ Consent Forms	
◆ Questionnaires	

## **Abstract**

This research investigated how e-portfolios can be used with gifted and talented students to empower them as learners. From a teacher's perspective, it also looked at what the impact is on the classroom programme when e-portfolios are used to keep a digital record of learning and assessment, and students are empowered to become independent learners. The final aspect of my research focused on the implications of e-portfolios for the school parent community. The overall findings were that the use of e-portfolios did lead to student empowerment. The teachers found that within their classroom programme, their workload did increase but the benefits for the learners outweighed the increase in teacher work. Many of the parents were very enthusiastic about the implementation of e-portfolios, but the research I conducted showed that as a school we need to do more work on educating our parents about the changes that are taking place with teaching, learning and assessment in the 21<sup>st</sup> century.

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## Introduction

E-portfolios are not a new concept; in fact they have been around for over 10 years in one form or another. The difference today is that more and more educators are discovering their potential and implementing them into their institutions.

This of course raises many issues and when my school looked at e-portfolios and began to discuss implementing them instead of our traditional clearfile portfolios, we struggled to find any research at the primary school level, that actually dealt with the what, why and how issues that as teachers we knew needed to be addressed.

For the last eleven years I have been a teacher within the primary sector at Cashmere Primary, a decile 10 school. In that time I have seen many changes in the technology that is available for use in the classroom. In 2002 my school entered the life altering experience that is the ICTPD cluster programme. For the staff it was three years of challenge and rewards as we grappled with creating our own school inquiry model and integrated curriculum to go alongside the changes in teaching and learning we had implemented. As a result of this in 2005 we began the IDEAL programme (Inquiry-based Differentiated Environment for Able Learners) with the Year 7 and 8 classes, to motivate and engage the gifted and talented students. These students were all confident and competent users of a variety of ICT tools and created a wide array of work during the year that reflected their learning using video, photos, PowerPoint, word, excel inspiration, paint and Publisher. However, this work was never pulled together to form a cohesive reflection on their learning journey. At the end of the year the work was deleted from the school network to free up space, as was the work of every other student within the school. This meant that valuable examples of the students learning were not passed on to the next teacher, and also in some cases not even shared with parents.

As a teaching staff we knew that there had to be something out there that could be used to track the students' digital learning journey and archive their work for the future. That was when we were introduced to the work Dr Helen Barrett was doing with digital story telling and e-portfolios. From there the idea for my research was born and the potential answer to our frustration at the waste of time and effort, as work disappeared into cyberspace at the end of every year.

In December of 2005 I attended the Eifel Conference in Auckland and met a large number of people from all over the world who were dedicated to implementing e-portfolios world wide. Amazingly out of nearly 100 delegates, there were only two practitioners from secondary and primary education within New Zealand, myself and my e-fellow colleague who was investigating e-portfolios at the secondary level. This conference was a turning point for me, as I was finally able to see what the possibilities were for e-portfolios. It was at this point that I also started to see that if they were to be implemented and used by primary school students then their teachers would need to have significant questions about work load answered!

From here my research question evolved:

How does the use of e-portfolios meet the school goal of empowering learners, and what are the implications for the teachers and the school community?

- In what ways do learners demonstrate empowerment through the use of e-portfolios?
- What is the impact on the classroom programme when e-portfolios are implemented?
- What are the implications for the school community through the introduction of e-portfolios?

The aim of this research was to empower the students in the IDEAL group to create their own e-portfolios and develop a digital record of their work, reflections and next learning steps that could follow them through the school and become a valuable archive for them, in future years. At the same time answer the tricky work load questions that all teachers need solutions to and ensure that the initiative was understood by the parents within our community.

And so my own learning journey into e-portfolios began.

## Literature Review

My research is focused on e-portfolios and whether they can be used to empower learners. It is also investigating the impact of e-portfolios on the classroom and the implications for the wider school community. With this in mind this literature review will look at three different aspects: learner empowerment, portfolios and e-portfolios.

### Empowerment

Students who experience empowerment will be better prepared for the learning requirements that they will face (Frymier & Shulman, 1994)

#### What is empowerment?

Empowerment is one of the “buzz” words within education circles, but what does the term actually mean and what does an empowered student look like? Luechauer and Shulman (1991) believe that empowerment is the process of facilitating student learning, self efficacy, commitment and motivation. This definition is supported by ” Thomas and Velthouse (1990 as cited in (Frymier & Shulman, 1994) who state that empowerment is the process of creating intrinsic task motivation by providing an environment and tasks which increase one’s feelings of self efficacy and energy. Sabieh (2002,) goes on to say that feeling empowered means having a sense of confidence in what one attempts to do. Task empowerment is a concept espoused by Thomas and Velthouse (1990 as cited in (Frymier & Shulman, 1994) There are four dimensions of task empowerment:

- (1) Meaningfulness considers the value of a task in relation to one’s own beliefs, ideas and standards.
- (2) Competence means that the person feels qualified and capable to perform the necessary activities to achieve the goal.
- (3) Impact means the accomplishment of a task is perceived to make a difference in the scheme of things
- (4) Choice refers to the degree to which persons self determine their task goals or methods for accomplishing them.

“The empowerment process in education should maximize the extent to which students experience these four components” (Luechauer & Shulman, 2002, p. 44)

#### Why is empowerment important?

Creating empowered learners and task empowerment is important because when students feel empowered and in control of their learning they are able to do more within the learning environment. (Sabieh, 2002) Empowerment also encourages people to achieve higher levels of commitment and performance (Luechauer & Shulman, 1992)

Empowerment makes people feel significant, excited and challenged by their work, like their work really matters and like they are part of a team. (Luechauer & Shulman, 2002) These three reasons show how important empowerment is to the classroom programme. As educators, if we want students to become self directed empowered learners, an effective learning environment needs to be created. (Leonard, Leonard, McKeag, & Mullins, 1997) This means that we are discussing the quality of the work with our

students, making quality expectations clear, asking students for their input, helping the students to assess their own work, and acting as facilitator to ensure that the students are provided with the best possible learning environment. (Luechauer & Shulman, 1991) Because the students have a voice in the class and are taking charge of their own learning (Eckert, Goldman, & Wenger, 1996) then as Potocki discovered (as cited in (Leonard et al., 1997) “students will become empowered to perform with personal latitude as they are aligned with the goals of the course.” (p. 226) This is supported by Eckert et al (1996) who found that the settings and situations that provide the greatest potential for learning are those in which participants have active and meaningful roles

Empowering our students essentially means four things (1) teaching students what enhances and what impedes learning, (2) helping them recognize and develop their own personal learning strengths, (3) teaching them specific thinking and learning strategies and (4) passing on the responsibility for learning onto them (Redding, 1990) if all of this can happen then we will left with classes full of empowered students.

## **Portfolios**

### **What are Portfolios?**

Portfolios became popular within education circles during the 1990's. They were used by educators for a number of purposes, everything from engaging students in learning, helping develop self reflection skills, and documenting learning to facilitating communication with parents (Abrutyn & Danielson, 1997), because of this varied use, there was a great deal of research conducted looking at the principles, objectives and outcomes for students when portfolios were implemented. (Abrutyn & Danielson, 1997) Different educators have defined what a portfolio is, many of them vary in emphasis, but they share certain characteristics. “A portfolio is a collection of student work gathered for a particular purpose that exhibits to the student and others the student's efforts, progress or achievement in one or more areas”(Burke, 1999, p. 58) this view is supported by Arter and Vavrus (as cited in Abrutyn & Danielson, 1997). Fogarty (1997) agrees with these definitions, but adds that the portfolio demonstrates student growth and progress towards predetermined goals. Paulson, Paulson and Meyer (1991) add to these definitions with “the collection must include student participation in selecting contents, the criteria for selection, the criteria for judging merit and evidence of student self reflection” (p. 60) If we tie all of these definitions of what a portfolio is together, we are left with, a portfolio is a collection of student work from a variety of areas, gathered over time to show growth and progress towards goals which have been set by the student. The student is the major participant in all phases of the portfolios development.

“When used in school portfolios have the potential to support a deeper level of engagement and self awareness. They make it easier for students to understand their own learning and provide teachers and parents with a richer picture of what students know and are able to do” (Barrett, 2006, p. 1)

## **Portfolios Vs Folders**

It is important to note the difference between folders of student work, and a portfolio. Portfolios are more than just a collection of work randomly organized and stuck in a folder (Burke, 1999), they consist of samples of student work collected over time and include reflections from the students on each piece of work (Abrutyn & Danielson, 1997) This view is supported by Paulson and Paulson (1991) who feel that there needs to be a distinction between folders and portfolios as a portfolio is a purposeful coherent collection which demonstrates the learning that has taken place and is driven by the student. The self reflection encouraged by portfolios is a recognized strength “the power of portfolios is derived from the metacognitive reflections that help students achieve their goals” (Burke, 1999, p. 70). The key focus of portfolio is the student involvement in the different stages of development, and the powerful nature of the student reflections on each artifact they have included. “reflection is the heart and soul of the portfolio”(Burke, 1999, p. 67)

## **Uses of Portfolios**

There are many types of portfolios, three of the main types used in schools are: the working portfolio, the showcase/display portfolio and the assessment portfolio (Abrutyn & Danielson, 1997; McLaughlin & Vogt, 1996; Fogarty, 1997) Much of the research that has been conducted focuses on the use of portfolios for student assessment. “The portfolio helps the classroom environment become a seamless web of instruction and assessment” (Burke, 1999, p.60) this view is supported by Paulson et al (1991) “If carefully assembled, portfolios become an intersection of instruction and assessment” (p. 61) Searfoss (as cited in Burke, 1999) also discuss the importance of blending instruction and assessment. “The final product is important, but the process is equally important and probably conveys more about how the student learns” (Burke, 1999, p. 61) Using a portfolio gives educators the opportunity to assess students in a new way, “portfolios offer a way of assessing student learning that is quite different from traditional methods”(Paulson et al., 1991, p. 63). The traditional methods of testing, grades, conferences and reports can all be enhanced by the use of portfolios, as portfolios provide the opportunity for dynamic assessment (Fogarty, 1997)

Finally portfolios can be used to encourage students feelings of self efficacy and self esteem as they are “powerful educational tools for encouraging students to take control of their own learning” (Paulson et al., 1991, p.61) “portfolios make a substantive contribution to student achievement by engaging students with greater responsibility for their learning and greater pride in their work”(Abrutyn & Danielson, 1997, p. 70) When used in school portfolios have the potential to support a deeper level of engagement and self awareness. And “a portfolio provides a forum that encourages students to develop the abilities needed to become independent, self directed learners” (Paulson et al., 1991, p 63)

In short it seems that the use of portfolios can lead to empowered learners.



# **E-portfolios**

## **What is an E-portfolio?**

E-portfolios encompass all of the aspects of ‘paper’ portfolios that were discussed in the previous section. An e-portfolio is defined as “utilizing electronic technologies, allowing the student to collect and organize portfolio artifacts from many media types including audio, video, graphics and text” (Barrett, 2001p. 2). Hartnell –Young (2005) states that e-portfolios are “essentially containers for purposeful selection of artifacts in audio, visual and textual term, they are tools for communication” (p. 1) Lorenzo and Ittelson (2005) add that an “e-portfolio is a digitized collection of artifacts, including demonstrations, resources and accomplishments that represent an individual, group, community, organization or institution” (p. 2) Like paper portfolios, the artifacts in an e-portfolio show evidence of the students learning over time, across the curriculum and the emphasis is on self reflection (Heath, 2005) “An electronic portfolio is not a haphazard collection of artifacts but rather a reflective tool that demonstrates growth over time.” (Barrett, 2001) Zubizaretta (2004, as cited in Barrett & Carney, 2005) agrees with this “the primary motive of a portfolio is to improve student learning by providing a structure for students to reflect systematically over time on the learning process and to develop the aptitudes, skills and habits that come from critical reflection”

## **The benefits of e-portfolios**

Electronic portfolios store information digitally, as much of the work that is generated by students is already in digital format, it is much easier to leave the artifacts in digital format, add a digital reflection and organize them electronically (Heath, 2005) This is an important benefits of the electronic portfolio. Bergman (1999) sums up some of the benefits of the digital age

“The learners of today are growing up digital and they are growing up portfolio. This is a world that allows us access to more information then we can make sense out of. Digital technologies help fuel our wealth of knowledge and information and portfolios are the only logical way to help us manage the way we plan, the way we learn, the way we make sound assessments, the way we collaborate and communicate, the way we demonstrate, the way we manage our work and our lives. Our portfolio illustrates the balanced whole of who we are as individuals”

As Heath (2005) states “much of the work that is done within schools today is not able to be communicated on the printed page” (p. 66) therefore electronic portfolios are necessary innovations within the classroom.

Electronic portfolios also help to engage the students “Creating an electronic portfolio involves a process that empowers students to take control of their own learning. They develop the self awareness to articulate their strengths, weakness, achievement and disappointments, learning experiences, passions and hopes for the future.” (Barrett, 2006 p. 3) Tosh, Light, Fleming and Haywood (2005) agree with Barrett and assert that e-portfolios have great potential to engage students and promote deep learning. While Lorenzo and Ittelson (2005) feel that e-portfolios are helping students to become critical thinkers. Finally Barrett (2005) combines many researchers thinking by stating that “the

use of multimedia tools is one strategy that involves and engages learners in the portfolio process.”

Using electronic portfolios can make the creation of a portfolio easier for many reasons. “Electronic portfolios can support complex organization for effective documentation, paper portfolios have to be linear” (Heath, 2005, p.66) The electronic portfolio gives the student much more flexibility because work can be cross referenced using hyperlinks without needing to make multiple copies for different categories. (Bergman, 1999). Ahn (2004) agrees with Bergman and adds that “the level of assessment and reflection is richer with e-portfolios because student work is displayed with their reflections, data about the learning standard and teacher feedback.” (p. 12)

Electronic portfolios also benefit students because they are an effective way to demonstrate technology skills (Heath, 2005) this process helps to sharpen students technology skills and therefore heighten students’ feelings of accomplishment (Siegle, 2002)

Another benefit of electronic portfolios is that they take up less classroom space (Gibbs, 2004) Paper based portfolios “require a great deal of room to store, electronic portfolios on the other hand require only virtual room” (Dowling, 2000, p. 10) “Electronic portfolios are also much easier to produce, distribute and access than their paper counterparts” (Heath, 2005, p. 67) and they provide a natural outlet to the outside world, paper portfolios on the other hand, have a much limited smaller audience (Dowling, 2000)

### **The disadvantage of electronic portfolios**

There are some disadvantages to the use of electronic portfolios. “The main drawback to electronic storage is that most students, teachers and parents value the experience of looking at the actual student work, of holding the paper in their hands, and comparing two pieces of work to one another.”(Abrutyn & Danielson, 1997, p. 60) The use of technology has issues attached to it as well, electronic portfolio development requires a level of technology skill that some people do not have, the creation of an electronic portfolio can also be very stressful (Heath, 2005)

Overall though the research points to electronic portfolios as being a positive initiative to implement within schools

“Electronic portfolios emphasize process, they provide formative assessment information that can be used to identify gaps in knowledge, transferring these gaps into new objectives, selecting appropriate leaning activities and developing self assessment for continuing growth.” (Barrett & Carney, 2005, p. 4)

## **Methodology**

This research took the form of a case study as the aim of it was to “provide a unique example of real people in real situations” (Cohen, Manion, & Morrison, 2000, p.181). As Geertz (as cited in Cohen et al., 2000, p.182) asserts “case studies strive to portray what it is like to be in a particular situation, to catch the close up reality and thick description of participants lived experiences of, thoughts about and feelings for a situation.” they investigate and report on the complex dynamic and unfolding interactions of events, human relationships and other factors in a unique instance (Cohen et al., 2000, p.181). This theory is supported by (Swann & Pratt, 2003) who state that a case study is an “investigation in considerable depth into one or a few cases in naturally occurring social situations” (p115)

Hitchcock and Hughes (as cited in Cohen et al., 2000) identified some hallmarks of case studies, the researcher is integrally involved, it focuses on individual or groups and seeks to focus on their perception of events, and it provides a chronological narrative of events relevant to the case. Because I was integrally involved in this case study I took on the role of “participant observer” in term one. For terms two and three my role was that of “non-participant observer” as I did not have any in class interaction with the groups. (Cohen et al., 2000, p. 186)

The data was collected using surveys and interviews. The questionnaires were piloted with both the students and teachers and included both convergent and divergent questions (Mills, 2000). Opened ended questions were used to “capture the authenticity, richness, depth of response, honesty and candour which are the hall marks of qualitative data” (Cohen et al, 2000, p 255). The interviews with the students were conducted in small groups to avoid the interviewer being seen as the authority figure, to ensure that a wider range of responses were gathered and so the interview was less intimidating for the students (Cohen et al, 2000)

## **Method**

### **Term One**

The group of students that I worked with were the Year 7/8 IDEAL group (Inquiry-based Differentiated Environment for Able Learners). This group of 26 came from four different Year7/8 classes. The group can be broken down further to 12 Year 8 students and 14 Year 7 students and they had been identified by their classroom teachers as requiring differentiation from the mainstream class programme because of talent in subject areas. These students were given the chance to negotiate their own class timetable which included “must dos” and “can dos” – numeracy, second languages, interchange (music, drama, science and physical education), and sport were all “must do” subjects. The rest of the class programme was “can dos” and the students were able to opt into their teacher’s lesson or work on their inquiry.

We met in the middle of term one to begin work on the first of three e-portfolios. I had prepared a PowerPoint for the students that outlined what an e-portfolio was and how to go about creating one. We also looked at numerous examples, mainly from America, which showed e-portfolios from kindergarten to high school.

After researching a number of different e-portfolio software packages, I had decided that we would use PowerPoint to create our portfolios. This decision was based on the fact that we had PowerPoint in the school already through the Ministry of Education deal with Microsoft; therefore we did not need to purchase anything else. And the students and teachers were all very familiar with PowerPoint and how it worked so the need for additional training would be minimised. I also felt that the features that PowerPoint offered with hyperlinking to other documents and easy insertion of media clips, meant that it would be a useful starting point for our experiment. Dr Helen Barrett states “the tools should allow the learner to feel in control of the process, including the look and feel of the portfolio” (Barrett, 2006) and I believed that PowerPoint would fulfil this need.

### **Stage One:**

#### Defining the Portfolio:

After watching the PowerPoint I had created, we broke the steps to making an e-portfolio down and decided on the context, goals and resources needed. The students identified the context, with help from me, as formative assessment. The first e-portfolio was to show their learning journey in term one to their parents at the first parent/student/teacher conferences in week two of the second term.

Due to timetable constraints and a group of visiting softball coaches, I met with the IDEAL students as separate year 7/8 groups to define the goals of the e-portfolio, and to identify resources. Each group created an inspiration document which outlined the different curriculum areas and possible artifacts that they could collect. Individually they then looked at the big picture of what they wanted to achieve through their e-portfolio.

When it came to identifying the resources I had expected that we would need to book some workshops so that the students could learn the skills they needed to operate the digital video camera, download pictures, hyperlink in PowerPoint and record sound. However the students did not see any of these perceived barriers as a problem and stated emphatically that when they needed to know how to do something they would find someone to help them!

The same week that I met with the students I went to the senior team meeting and shared the e-portfolio PowerPoint with the student’s teachers. I also shared the e-portfolio examples from the United States with the teachers so they could see what the students were going to be creating. We talked about what the teacher input would need to be for the first e-portfolio and as a group we decided that I would work with the IDEAL group to create the first e-portfolio which meant the impact on the classroom programme would be negligible.

Each week I was at school on either a Tuesday or a Thursday between morning tea and lunchtime. I met with the IDEAL group formally for the first ten minutes of the session. This was an open sharing time where the students could discuss technology issues they had come across and where I could bring up timetable concerns their teachers had shared with me, or show them tips and tricks as a group. Then the students were free to go and do other work, stay and get help with problems they were having with their inquiry or with their e-portfolios or spend the time in the suite using the computers for their e-portfolio and inquiry.

During these sessions I experimented with collecting data using the video camera and voice recordings, but I found that this was not a very successful data collection method as the students were often so engrossed in their task that they didn't say much. If the students were helping each other with technical issues or sharing ideas, I found that the camera or voice recorders were often in the wrong place so the sound quality was very poor. Instead I used a journal where I jotted down things of note as they happened. This led to a lot of anecdotal evidence which was used to validate information I gathered through other sources.

### **Stage Two, Three and Four**

The working Portfolio

In week 8 of term one, we met to discuss e-portfolio progress. I had noticed that the students preferred to use our meeting time for their inquiry work rather than their e-portfolio. I discovered that the group had done very little on collecting information to put in their e-portfolio and so I scheduled a day in week 9, where the students worked with me to collect the artifacts and start to create their e-portfolio. This was a hectic, full on and very exciting day. The students spent time before hand planning what they needed to take photos, video and voice recordings of, and then they booked the necessary equipment.

The aim of the e-portfolio day in week 9 had been to collect and collate the information. But due to the fact that there were 24 students (two students had gone on holiday) and only 6 digital still cameras and 2 digital video cameras, we merged stages three and four into the day as well and the students started on their reflective and connected e-portfolio. This meant that as they collected an artifact, they reflected fully on the purpose of it. To make it easier for them to understand I had used Dr Helen Barrett's "What? So what? Now what?" method of reflecting on artifacts (Barrett, 2005). It meant the students had to state what each artifact was and how it linked to their goals for the e-portfolio. Then comment on what the artifact showed they could do and what their next learning steps were in that area. If they were waiting for equipment to come free, they were creating their e-portfolio, deciding on backgrounds, importing pictures and creating the contents page. Within five minutes every student in the room knew how to hyperlink to other text documents and how to create action buttons to navigate around the PowerPoint. I had asked at the start how many people knew how to do hyperlink and 5 students out of the 26 felt they were experts. Before I could even start to help the other 21, the five experts had split up and moved around and taught everyone! Just in time learning with peer tutors in action.

By the end of the day, 19 of the students had a completed or nearly completed e-portfolio. They had hyperlinked their pages, inserted their multimedia artifacts, created their contents page and incorporated their reflections. The five who were not finished had been the last few to get access to the equipment and they needed another ninety minute session the following day in the suite to finish.

Once they had created their first e-portfolio, I surveyed the IDEAL group to see if the e-portfolio had enhanced their empowerment as learners. I developed the survey to include questions that could be linked to the empowerment indicators I had identified through my reading of the literature; meaningfulness, competence, impact and choice. But I also found that the survey gave the students the opportunity to reflect on their e-portfolio and identify changes they wanted to make to their next e-portfolio. These findings will be discussed in detail in chapter 5.

### **Stage Five**

#### **The Presentation Portfolio**

The students presented their e-portfolios to their parents and classroom teachers at the conferences held in week two of the second term. This was the students' chance to celebrate their work and share it with their intended audience. There were some problems though as not all parents were able to go to the conferences and the fifteen minute time slot was in some cases not long enough for the parents to get a good look at the scope of work the students had done.

After the conferences all of the parents were asked to fill in a survey which focussed on the implications for the community of e-portfolio implementation. Out of a possible 25 responses I received back 24 of the surveys and the results of these will be discussed in chapter 5.

The teachers were also asked to complete the same survey. I had been meeting with them informally over morning tea each week to check that everything was going well with the IDEAL students in their classes, how e-portfolios were impacting on their programme and whether there were any issues I needed to bring up with the IDEAL group at our weekly meetings. Because the teachers were having little to do with the e-portfolio development, they didn't have a lot to say at these informal meetings about the impact on their programme. However once they had seen the finished product at the term two conferences, some of the teachers had a lot to say about the projected impact on their programme and so I formally interviewed them to record their thoughts and feelings.

### **Term Two**

In term two I expected that the students would be able to self manage their artifact collection for their e-portfolio. We still met once a week and I was available to help them with their inquiry or with their e-portfolio. I reminded them weekly that they should be digital packrats – storing as much information as possible to make the e-portfolio creation later in the term as easy as possible.

In the middle of term two, the two Year 8 teachers decided that they wanted to create e-portfolios with their whole class, rather than just the IDEAL students. This was for two reasons: 1) increased pressure from the other students in the class who were seeing the work the IDEAL students were doing, and, 2) a shared understanding from the two teachers that e-portfolios were showing much more than the traditional clearfile portfolios ever could, therefore were the next logical step in portfolio reporting for our school.

In week 7 of the term I went to each of the two year 8 classes and shared the PowerPoint I had created on what e-portfolios were and how to make them and then the IDEAL students in each room shared their e-portfolios with their peers. This session was designed to help enthuse the students about e-portfolios and explain the process they would be following. At the end of term two it was decided by the team leader that all classes in the senior team would take home as e-portfolio in week 8 of term three instead of a clearfile portfolio.

In week 10 of term two I met the IDEAL students for one ninety minute session to complete their e-portfolio. All but 8 of the students were able to finish their e-portfolio in this time slot, the students who didn't finish had some time the next day, but still 3 out of the 26 students did not take home an e-portfolio at the end of term two.

In the parent survey, many of parents had commented on the rushed nature of the conferences at the beginning of the term and the fact that they had not been able to see the whole e-portfolio. With this in mind, the students created a CD that had both their term one and term two e-portfolios on it to take home and share with their families. The students also took home another copy of the survey for their parents to complete and their clearfile portfolio so that the parents were more accurately able to compare the two portfolios. The survey was the same as the one from May, so that I could gauge any changing thoughts towards e-portfolio implementation.

At the end of term two I interviewed all of the Year 8 students in the IDEAL group. This group was selected because it was their second year in the IDEAL programme and they were able to comment without bias on the implementation of e-portfolios. Data from the term one survey showed that some of the Year 7 students were confusing the IDEAL programme and the use of e-portfolios, and were commenting on the programme rather than the use of e-portfolios as a mechanism for empowerment. These interviews were held as two focus groups, one group from each class. This was necessary because of the tight end of term timetable and meant that one group had 4 children and the other group had 6 which was not an ideal number to ensure full participation from all members. The results from these interviews will be discussed in full in the following chapter.

### **Term Three**

In week three of term three, I went to the two Year 7 classes and shared the PowerPoint on e-portfolios and then the IDEAL students in each of the classes shared their

e-portfolios with their peers. Like the Year 8 classes, this visit was designed to help enthuse the students about e-portfolios and explain the process they would be following. The teachers across the senior team then took over responsibility for the implementation of e-portfolios into their programme with their whole class and I interviewed them at the end of the term to see how it had all gone. These results will be examined in depth in the next chapter.

In week 8 of term three all 98 students in the senior team took home an e-portfolio on CD to share with their families.

### **Ethical Considerations**

In term one I sought consent from all the parties involved in this research. Out of the group of 26 students all but one family consented to their child taking part in this research. The student who was not to be involved in the research remained part of the group and created an e-portfolio each term, but did not complete the surveys and any anecdotal evidence I had in relation to that student was disposed of. All of the teachers consented to taking part and the principal gave consent to the school name being used within the research.

My position as a teacher within the school for the last ten years, meant that I already had an established relationship with most of the students in the IDEAL group, especially the Year 8 students, many of whom I had taught the previous year. I was not currently their classroom teacher and not involved in any formal assessment of the students, therefore the relationship that existed throughout the research project was an informal student/teacher/facilitator relationship rather than a coercive position or one of power.



## Data Analysis

This section is set out in three subsections - Learners, Teachers and Parents - which outline the findings for the three groups my research focussed on.

### Learners

“In what ways do learners demonstrate empowerment through the use of e-portfolios?”

Through my reading of the current literature surrounding empowerment, I had discovered that in fact there was no evidence that the implementation of e-portfolios would lead to cross curricula empowerment for this group of students. Instead I found that e-portfolios might lead to task empowerment, where the students are empowered by the task they are completing. Task empowerment is defined as “the process of creating intrinsic task motivation by providing an environment and task which increases ones feelings of self efficacy and energy” (Frymier & Shulman, 1994, p. 6) I identified four indicators for task empowerment: meaningfulness, choice, competence and impact - and I used these indicators in my analysis of the students’ data.

All of the students in the IDEAL group completed 2 surveys, one at the end of term one and one at the end of term two. The Year 8 students also took part in a focus group interview.

**Meaningfulness** - if the task is not meaningful the student will not be motivated  
The meaningfulness of e-portfolios was a motivator for the students within this case study. While I was analysing the data from the surveys and interviews the students completed, it became very obvious that the students had all found the development of their e-portfolio a meaningful task as they felt it reflected their learning for each term.

“It showed lots of my work from term one. It told me more about what I learnt. It showed all of my work and my next steps.”

“It had all the stuff we did in term one in it. It showed all of the main things we worked on this term”

“It had all our work from term one in it”

“It had the things that we had learnt in it”

“I was easily able to display all of my learning”

“It shows all of the things that you want to put into it, not just the things the teacher wants you to put in”

All of the students commented on how important e-portfolios had been in sharing what they did at school, with their parents. This came through in both questionnaires and in the interviews as being an aspect they had really appreciated about the e-portfolio.

“I think it means you can show more of what your day at school is like. You can show what you do rather than what you have to show”

“My parents wouldn’t see my art work at all”

“I don’t think Dad has hardly ever been in the school”

“I think that it also helps parents know what I’m doing because sometimes it is not always shared and it is faster to show”

“All those things are things that our parents wouldn’t see otherwise”

“It helped show my mum and dad what I had done in the last term.”

“I got to show all of the work I do on the computer to my parents that I don’t normally get to show.”

Most of the students reported that they had enjoyed the fact that the work was relevant and the e-portfolio actually reported on what they had been doing, rather than the clearfile portfolio which, during their school experiences, had often contained manufactured “just for the portfolio” work samples.

“Every subject was related to my work”

“It was not artificial work done for a portfolio”

The students also found that the use of the e-portfolio helped them to come to terms with what their next learning steps were in each curriculum area.

“I got a clear idea about my next learning steps.”

“It has been easier (*to see my next learning steps*) because I can reflect on it and think more about my next steps”

“You have to write out the what, so what and now what”

“You can see your work and reflect on it”

“It makes it easier (*to see my next learning steps*) because you need to write a summary on the piece of work you put in”

“We can actually put them in our own words rather than copying from a sheet”

“I had to actually think about them”

“I had to come up with them myself”

One surprising factor that the students in the first group interviewed commented on was that they wanted more input from the teachers in their e-portfolio.

“Maybe the teacher could put something into the e-portfolio”

“Maybe there could be a teacher page or something”

“They take longer to get together, but I think the overall thing is that the end result is so much better than just a normal clearfile, you can show so many more things and if we just got that bit of teacher feedback in it, it would be so more meaningful”

“In your e-portfolio you say what you have done well and choose your next steps and it is kind of harder to do than if the teacher does it because you are not really sure what you need to work on because you don’t know”

This feeling was echoed in the second questionnaire when 6 out of the 18 students responded that they would need more support from the teacher to make their next e-portfolio more successful. When questioned to clarify this answer, 5 of the students said that they wanted to be able to put in the rubrics and feedback that their teachers gave them for their class work.

**Choice** - the degree to which the students make decisions about achieving a task. The students had complete control over the content and design of their e-portfolio. The only proviso was that they had to use the computer programme PowerPoint. The fact that they had the choice was very important to the students and this feeling came through very strongly in every single survey and interview.

“I got to choose what went in. We can put what we want. It gives us control on how we make our portfolio”

“I liked creating my e-portfolio because it was up to me to put it together, choose and take photos instead of the teacher and videos can't be put in a normal portfolio”

“In the paper portfolio I never had a video of my dance, it would just go unnoticed”

“I like how you can put whatever you want in, you don’t have the teacher say this goes in here, no, no, you’ve got it in the wrong place you need to put it here”

“Teachers give you stuff and you may not be as proud of that information as you may be for a different study of something”

“You can put what you want in there”

“I liked deciding what to put into it, and I liked how you choose what to put in”

“I liked it because we got to choose what we put in it”

The students were able to choose the format, layout, design and content of their own e-portfolio and they responded that they had really enjoyed having the control over how their e-portfolio looked.

“You can personalise them to what you want, any design or anything”

“They are more personal, a lot more personal”

“I hated the old portfolios...the teacher handing you a sheet and it is the same as the class, same writing on everything, it's (*the e-portfolio*) just a bit more different and you have more control over it”

“You can be more creative”

**Competence** - student feels qualified to achieve a goal

The use of the technology was not a factor that inhibited any of the students. They were all confident ICT users and they all felt that they were able to complete the task.

“I liked using all the technology”

“I liked how simple it was to put together and how you could show more things you couldn't show in a paper portfolio”

“The good thing was using the computers to make it. It is so much easier”

“I liked using the equipment to create the e-portfolio”

“I liked using computers to make a portfolio”

If they did not know how to do something they were confident in asking their peers for support. This lack of knowledge did not worry them or stop them, from completing the task.

“You pick it up really quickly if you don't know it”

“If you don't know something you can get help but you know that you can do it and stuff”

“If no one else knew it was just trial and error. Like with the hyperlinks when you click on them it changes colour and we just worked through, cos it was different to some of the other programmes, and we just worked through and managed to change them so they stayed the same colour”

“When I did my first one I didn't know how to hyperlink, I just got taught how to do it”

**Impact** - making a difference in the scheme of things

The students were not so sure about what impact the e-portfolio would make in their lives and in their future. Four did comment that they had changed some of their learning strategies because of the work they had done with e-portfolios

“It has an effect over what I know about my learning”

“I have learnt to plan in advance”

“I have been working more independently”

“I have got more work done”

One student responded in the interview that “With the paper portfolios you waste a lot of time doing them, whereas with this there is actually a point behind them” when asked “What is the point?” he responded with “That is a good question” and would not elaborate any further.

Three students discussed e-portfolios being important in the future

“I was thinking about the fact that... the generations are leaning more towards technology; it means that it is helping you for the future in a way”

“I think e-portfolios should be the future”

“I think the e-portfolios are really showing a futuristic change”

I am not sure where this language comes from, because in two of the cases the language used was very out of character for the students, therefore there is a possibility they were repeating something they had heard elsewhere, maybe at home from their parents.

### **Issues raised by the students**

The students raised a number of other issues surrounding e-portfolios in their surveys and interviews. Their desire for more teacher voice within their e-portfolio has already been discussed. Another area of difficulty the students faced with the e-portfolio was technical issues when they tried to share their e-portfolio CD at home.

“If we put the photo story in it wouldn’t work on our computer because we don’t have media player 10”

“My dad really liked my little digital story and he wanted my mum to see it but it wouldn’t work on the computer. You could get some pictures showing but there wasn’t any sound or anything”

“Some computers can’t run the new PowerPoint”

“On one my description didn’t come up, I don’t know if that was because I did something wrong or not. It just wouldn’t come up, so they saw the picture but they didn’t actually see the description”

The students were asked to compare the e-portfolio with their old clearfile portfolios. Most of the students responded that the e-portfolio was a superior way of sharing their work

“I can put everything in my e-portfolio and it is easier to modify”

“It is a lot more efficient to use”

“More manageable and easier to make and put together”

“It is easier to portray what has happened and what I am learning”

“A lot more is in the e-portfolio, you have more control over it and it looks a lot better”

“You can make the e-portfolios more interesting and you have a lot more control over what goes in them”

“I think it is worth it though because the clearfile is just kind of so boring”

However two of the year 8 students in their interview had a different view of the e-portfolio. They felt that the clearfile gave them and their parents a better understanding of their learning needs.

“One of the things my parents found was the e-portfolio showed some of the learning steps and stuff but they liked being able to look at tests and stuff in the clearfile and see what you got wrong so they could see the things that we could work on at home.”

“When you have the clear file they have more detailed next steps and what you have done more. We do show what we have done and stuff in the e-portfolio but it is more in depth in the clear file”

Another issue the students had was that they had trouble deciding what to put in the e-portfolio. They had the choice of content but felt there was much more they could have included each term

“It did show some of my work but there was a lot of other stuff that I could have put in it”

“I would like to put in more things”

“I would put more stuff in and different stuff in”

“It showed just about everything we did but I could have done more detail on my maths”

## **Findings**

Overall the data showed me that the students had found the trial of e-portfolios to be an empowering experience. The fact that they had control over the content and style had lead to increased pride in their portfolio and the students had also really enjoyed the chance to share more of their daily school life with their families.

The e-portfolio had contributed to the students understanding of their next learning steps and had given them the chance to present work in a digital format, which they had really enjoyed. The use of the technology had not fazed the students even if they were not sure how to do something; they either asked for help from a peer or through trial and error solved the problem themselves.

Surprisingly the students had wanted to see more teacher input within their e-portfolio so this issue was addressed in the term three e-portfolios which the whole senior school completed. The teachers provided the students with access to their classroom manager profile and gave digital feedback to the students on work they had done.

Some students experienced difficulty sharing their work due to different versions of PowerPoint and because some downloads were not available and this is an area that will need to be looked at for future e-portfolios. Generally the students felt that the use of e-portfolios was superior to the clearfiles that had been traditionally used at the school, a view that was shared by their teachers.

## **Teachers**

“What is the impact on the classroom programme when e-portfolios are implemented?”

The teachers completed a survey at the end of term one and then took part in two interviews. They started this research project with only five or six students in each class working on e-portfolios. By the beginning of term three, all of the students in the senior school were creating an e-portfolio to take home in week 8 rather than a clearfile portfolio.

## **Impact**

The teachers were all very positive about the e-portfolios and felt that they had been a positive initiative because of the benefits to the learners.

“I’ve got kids coming into class before school and going onto their e-portfolio and doing stuff because they love it, they would never have done that with their clearfile”

“It would carry over into lunch hour if it needed to which I was quite impressed about.”

“Definitely positive absolutely, without any question because this is a generation who is ultimately extremely familiar with it and of they are not, then they bloody well need to be because they are in the dark ages”

“They relate to digital in such a positive way and I think that can be harnessed, developed and extended.”

Overwhelmingly all of the teachers discussed the fact that, in their opinion, e-portfolios had empowered their learners by giving them choice and providing a meaningful task.

“From their perspective starting to take that kind of ownership and responsibility is a good step for many of them anyway because they are not necessarily used to that. And having come through a system which sort of dictated what went where and stick this here and write this and so forth, its got to better for them. And it is the only way that we are going to start them viewing things, as education as being intrinsically valuable to them, is if they start having some pride in what they do”

The teachers felt that one of the strongest attributes of the e-portfolio was that the students had to reflect in their own words on their learning

“I think it is neat because they actually have to reflect on what they are doing and there’s a real purpose behind it now because they are showing this to their parents so therefore it raises the bar”

“It wasn’t child speak in the clearfile, it was us writing this is what you’ve done, this is your next step. And at the very end they had a little bit that they could write in there but it wasn’t, it was a naff. Whereas for these, they have to for each area physically think and reflect on how they did. And if they didn’t hand it in and they didn’t meet the deadline then they need to be saying that”

“What I like about it is that they have to think what they were learning, and their next steps and they have to write that for themselves, that’s what I like about it, so they are thinking about the what, the so what, and the now what.”

“The reflection part was an important component, the children were able to articulate what they had learnt, what they had enjoyed/didn’t enjoy, what had gone well for them and next steps. By using e-portfolios the children were able to do this and share/celebrate their learning.”

### **Workload**

The work load for the teachers had increased but the feeling that they imparted was that it was a good increase as the learners were benefiting from the work.

“It has been quite a bit of work so far but it has been good work”

“(The workload) has increased three fold four fold too, so therefore I don’t see it as extra work for me because I can see the purpose and the effect that it is having is going to massive, far, far, far better”



All of the teachers admitted that some of the extra work they had been doing, was work that the students could have done. The teachers felt they had to complete the tasks for the students, so that the e-portfolio was successful.

“Actually some of the stuff that I have been doing has been stuff that I could have left the kids to do or someone to do. Like for instance during the speeches videoing it all, editing it, I could have got one of the kids to do that but I wanted to learn myself, how to do it. So that’s something that I don’t necessarily always have to do.”

“Some of it I wouldn’t do in the long term for them but I wanted to make sure that while they were learning it was as easy for them as possible.”

“A lot of my focus was to ensure that we had the samples, yes you could pass that over to a student, but there wasn’t a feeling of confidence that you would end up with something that they were happy with. So it really came down to do I risk it? I don’t feel like I can, I’ll do it myself”

“We have been gathering a lot and sticking it into student write for them because it wouldn’t have been manageable otherwise.”

One teacher also felt that as she became more familiar with the students using e-portfolios she would change her assessment practices and that would decrease her workload

“I have done them(*marking rubrics*) on the hard copy because it is easy to flick the old highlighter over them as you are doing it and now I am sitting down and having to do that technically, which is a learning curve for me, maybe I could have done it much quicker with the computer. Now it is getting that done so that they can put it in (*their e-portfolio*)

Technical issues also contributed to the increased workload. Only the newer computers around the school would run the PowerPoint version the students had started creating their e-portfolio in. This meant there was increased pressure on resources and more time was needed for block class bookings of the suite.

“I think the other difficulty is that we can only do the e-portfolios on the new computers because of the PowerPoint so you can only use my laptop and this new computer So you can’t even say to the kids, which you normally would be able to do, when you have finished your reading or silent reading if you have a spare minute or half an hour pop on and work on it, you can only have that one computer going. I could book the laptops but it’s not quite so spontaneous, like in silent reading time you could have 6 kids reading and 6 kids on them working.”

“You have got to organise your programme so that you’ve got a small group working on that one and then you have to try and get the next people in and try and keep them on top of the fact that they only have a limited amount of time. Plus organising your other kids. I ended up using the laptops quite a lot because

there wasn't a great deal of time in the computer suite but it meant that I had a lot more work trying to slot in and getting everybody up to speed."

There were also technical issues for one of the teachers around the security of class folders and where the students were saving their work to

"[name given] lost his whole folder because he or somebody else had inadvertently copied everything into the next folder down. There is that risk and inability to be certain about the security of files and safety of files. And the whole management thing; you know where are we saving this stuff? It got better and people were saving to the right place, but in the beginning there was this room folder and there was this portfolio folder and so that whole planning and organising and just being able to sort of make sure you do it, just again adds time."

Three of the teachers raised the technical issue that they did not know how to use some of the programmes or equipment. This surprised me, as I had not anticipated this being an issue for the teachers

"I had a few frustrating issues with the hardware, which is probably my fault, but I would say I would need to be more, check that I have got the necessary knowledge."

"Not being as conversant with PowerPoint as I'd like to be. Finding that time to sort of sit down. And I also see so much more potential for it if we are able to get up skilled."

"I mean I have done it all before but it is going to be remembering how to do the links myself"

"I think that if I don't know how to do it myself, to ask them to do it, whilst there is some merit in that, it is a bit of a cop out, I need to know how to do it."

"That held me back a little bit, my confidence (*with technology*)."

All of the teachers grappled with the fact that the students had complete control over the content of the e-portfolios and this was an area that they feel will need some discussion in the future, as a number of the students did not choose to put core subject areas in their e-portfolio.

"I am kind of thinking we should perhaps have some must dos. There must be Maths, there must be English. There must be literacy and numeracy covered and then they can choose your art or technology or sport or music and things like that"

"Whole idea of allowing the students the choice because ultimately we really need them to feedback on some key areas and if you've got a student who is not a strong mathematician or a strong writer if you give them the option they won't put it in, but it is too fundamental from a teaching perspective to leave out because that is part of the crucial sort of reflection of where that individual is. How you

meet the needs of what we are trying to demonstrate is being taught in class with what the students would like to show is an area that needs to be addressed.”

There was also the feeling from two of the teachers, that the time constraints and the difficulties getting access to the computer equipment to complete the portfolios had led to a lowering of expectations, which meant that the students work was not as good as it could have been.

“I feel that expectations were sort of lowered because you are trying to get this thing completed.”

“I think there was a danger of allowing your expectations to lower in terms of output from the students to get it done. I think that is the sort of thing that will change once it becomes more familiar and routine I think that you will find that as teachers will get better at managing it and knowing they could keep their expectations higher, once the students became more familiar with working on that media.”

“Having the time to actually get something valid and worthwhile in there and I have to say that I was a bit disappointed with some of mine”

Two of the teachers were also concerned that if the students did not complete their e-portfolio or it was not up to standard, then that would reflect on them as teachers rather than on the student’s time management skills.

“The parents are still going to look at us and say it’s your fault that you don’t have it and actually it is going to reflect on us”

“The biggest thing that I am worried about is the same for the other portfolios, kids not finishing stuff to get it on and it is going to be sparse”

When asked to compare the clear file portfolios with the e-portfolios all of the teachers felt that the e-portfolios were a change for the better

“I think the quality of work has been heaps better than those dodgy clearfiles”

“It’s great, it’s a great beginning, I don’t think we will ever go back to the old clearfiles”

“The potential for them is amazing, I mean I keep thinking we could put that in and put that in and why don’t we put a link to that..”

“It is not such a drudge because I know that they will look damn good compared to what they were.”

However they did admit that there was more work involved in creating e-portfolios than clearfile portfolios, but as mentioned earlier they felt it was worthwhile work.

“I didn’t spend much time with clearfiles but it was always horrible and hectic and didn’t actually look all that good.”

“The clearfile for us wasn’t a huge amount of work because we spent a morning. So for half a day it was a bit of a mad rush collecting things together and putting them in but it was done.”

Another aspect that surprised the teachers was that that the students were really keen to share their e-portfolio work with each other and their parents, something that they had not expected.

“They are keen to show it off to the other kids as well. Like they have already started to design their slides, and they have already started to design their colours and their fonts and their titles and they are getting a big buzz out of that “Wow you should see what so and so has done, it looks really good” So they are getting a buzz out of peer sharing”

“I think instead of us directing and telling them this is what the end result is going to be and they can’t see any point to it, at least they have a purpose to show it off to someone else.”

Finally one of the teachers summed up how they all felt about the e-portfolio providing a record of learning for these students

“I love that idea of having the record very easily contained and transferred forever. I think that is fabulous to have that and be able in ten, twenty, thirty years, still be able to laugh your head off at that drama you did.”

## **Findings**

The data the teachers provided was extremely positive about the implementation of e-portfolios. The teachers felt that e-portfolios had been beneficial for the students because they had been so keen on the e-portfolio, some students had even worked on them in their own time. The students had also shown much more pride in their e-portfolio than in their clearfile portfolio and their reflections on their learning was viewed by the teachers as one of the strongest attributes.

There were workload issues for the teachers involved because there were only a limited number of computers available which meant the classroom programmes had to be adapted to fit in with the computer suite timetable. Some of the extra work the teachers did i.e. taking photos of students work was work that the teachers acknowledge they would not have to do in the future as the students became used to collecting work throughout the term. Although their workload had increased, all of the teachers felt that the extra work was a ‘good increase’ as the experience had been so rewarding for the students.

The teachers felt that the students having control over the content was a good idea as it empowered them, however they were all in agreement that there needed to be some must dos so that core subject areas were reported on. One area that surprised me as the researcher was that some of the teachers were concerned that they did not know how to use some of the programme and equipment that the students were using. This is an area that may need to be addressed in the future so that these teachers feel more confident.

The teachers and students were all very enthusiastic about the implementation of e-portfolios. They found them to be empowering and all felt that e-portfolios reported on what learning had taken place at school, giving a good picture of daily school life, and identifying next learning steps in a variety of learning areas. Many of the parents were not as positive about the new initiative.

## **Parents**

What are the implications for the school community through the introduction of e-portfolios?

All twenty five of the parents in the IDEAL group were given two questionnaires to fill in, one at the end of term one and the second at the end of term 2. Twenty three parents returned the first questionnaire but five of them had not seen their child's e-portfolio at the parent/teacher/student conferences, which brought the number down to eighteen. Twelve parents returned the second questionnaire.

### **Overview of Learning**

The parents were very enthusiastic about the e-portfolio and most felt that it gave a good overview of their child's learning

“The e-portfolio is more interactive and more attractive to look at. It is easier to find and relate to the info and it seems more personal. We had a nice time looking at it together”

“The e-portfolio can easily carry a greater volume of work so it gives a broader overview”

“It was great to be able to see an example of [name given] work in each area of learning; he enjoyed showing it to me”

“I was delighted with the way it brought together a range of different skills that [name given] had been working on”

“The e-portfolio gave us a snapshot of his term-life, his achievements and his learning curve. Where he has grown and developed in his academic work but also in his skill level to create the portfolio in the first place”

“The e-portfolio gave a good summary of the work from term one. The portfolio was very informative and gave a good demonstration of the breadth of work covered.”

Some however felt that there was not enough time to view the first e-portfolio at the parent/student/teacher conferences

“We didn’t have long enough to look at it properly”

“We saw [name given] digital story at the learning conference but didn’t have time to look at anything else”

“There wasn’t enough time at the interviews to have a thorough look at it all.”

“It would be nice to see it in advance of the parent teacher conference”

“We would prefer to spend parent teacher time talking with the teacher”

“There needs to be more opportunity to view them”

“If it is to be viewed in the interview time, then parents would actually need time prior to the interview to view all of the details on the portfolio”

Because this opinion had been voiced by more than one parent, I decided to send the term two e-portfolio home on CD. This was so the parents had more time to view their child’s e-portfolio and therefore could discuss the e-portfolio in more depth in the second survey.

One parent felt that the e-portfolio gave a limited picture because much of the work her child had included was group work rather than individual work.

“I felt it gave a limited picture because much of what I saw was group work it seemed more about classroom/group work rather than individual”

In the second questionnaire the parents’ responses changed slightly in relation to the e-portfolio providing a picture of their child’s learning. They indicated that whilst the e-portfolio provided a good overview of their child’s work, they also wanted to see the actual written work and more information about maths.

“Good quick overview and I shows off the technology but I would still like to see the traditional thinks like writing”

“Even though I was very impressed with [name given] e-portfolio, I still really like to see his actual written work”

“I feel the most complete picture can be achieved by a combination of e-portfolio and some samples of work which can be viewed in the entirety”

“Examples of his maths development and further examples of his writing skills”

“I couldn’t get a feel for her maths from her e-portfolio”

When asked what other information they would like to see included in the e-portfolio, seven of the parents responded that they wanted to see the levels their child was working on, test results and comparisons to the rest of the class.

“Achievement levels obtained for each subject”

“Test results ie AsTTle”

“Maybe results of tests or the levels he is working on”

“We are interested in the teachers’ reports and bench marks not just self reporting by the children.”

“Levels compared to average levels of other students and results of testing”

“How he compares to others, parents love comparisons”

“More comparisons perhaps”

When I interviewed the students I asked them how they felt about some parents wanting to see handwritten work, test results, the levels they were working on and a comparison between them and other students.

“That’s a good idea. I don’t know about handwriting, my parents know it is shocking. I would be interested to see where I am in the class, maybe in NZ more than the class.”

“Don’t you get that (*test results and levels*) in your report?”

“You could have a whole test results page”

“It would be cool to see what grade you got, like to know how good you are”

### **Understanding of next steps**

The parents were asked to comment on whether or not the e-portfolio had increased their understanding of their child’s next learning steps. In each questionnaire half of the parents felt that the e-portfolio had contributed to their understanding of their child’s next steps.

“[name given] next learning steps were clearly identified so I could see what she would be working on next. I was very impressed to see that she had been encouraged to reflect on what she had done and suggest ways in which to improve on her effort next time.”

“It provides a clear picture of where they are at”

“The experience has helped [name given] be aware of his learning, which in turn aids my understanding”

“More effective than the written portfolio. Gives an excellent general overview to open discussions about [name given] learning”

“It has given me a more complete view of all the areas she is working on”

The other half of the parents did not feel that the e-portfolio had contributed to their understanding

“Didn’t really show me what the next learning steps are but did show me what he could do”

“It has probably given less than before as it is harder to see the detail”

“Don’t believe it has changed our understanding”

### **Clearfile and e-portfolio**

Finally the parents were asked to compare the e-portfolio with the clearfile portfolio.

There were twenty five responses to this question over both surveys.

Ten responses were that the parents felt the clearfile portfolio was a better way to present their child’s work

“The e-portfolio shows off some skills well but are more fleeting and superficial”

“Although the e-portfolio was a polished attractive presentation and showed good skills on the computer, I think the clearfile presentation is important for the children to develop the required neatness and writing presentation skills. These skills are required throughout their high school years. The computer skills are useful and help build confidence but the handwriting skills are more basic and need to be kept up”

“Not as much information given in the e-portfolio”

“There is less actual work in the e-portfolio. It is more of an online summary of each subject”

“I prefer the clearfile portfolio with as much hand and free hand work in it as possible”

“(The *e-portfolio*) doesn’t give an indication of handwriting skills”

“I quite like the manual nature of the clearfile portfolio which focus on presentation handwriting etc without the computer”

Three parents responded that it was difficult to decide on which was better

“See them as complementary really, neither provide a very full picture on their own.”



Twelve responses indicated that of the parents felt that the e-portfolio was a better way to share their child's learning journey

"E-portfolio is a far more interesting way for them to present their work"

"The e-portfolio was visually impressive and the children got a bigger kick out of presenting to their parents in that format. It was more interactive and they go to display a greater variety of their work"

"The e-portfolio shows a lot more of what they do and how they do it"

"It was easier to understand and more enjoyable to go through"

"We can pass the e-portfolio around the family easily which is great. The e-portfolio gives [name given] choices about content, raises his interest in putting it together as a package"

"The e-portfolio is more interactive and more attractive to look at. It is easier to find and relate to the info and it seems more personal. [name given] is able to express himself better and has more fun through electronic media. We had a nice time together looking at it"

### **Other issues**

One parent echoed the students concern over not being able to open some aspects of the e-portfolio due to technical issues at home

"We were unable to view the picture story as the download required for media player did not work"

And one parent mentioned that they were disappointed with the standard of work

"We were a bit disappointed with the CD presentation and feel that [name given] did a "rush" job. Should he had have more time and put more attention to detail he would have produced outstanding work. There were many spelling mistakes that made it difficult to read and these could have been easily checked with a spell checker. The video clips were also rushed. The use of a tripod and more time would of helped."

### **Findings**

I feel that the parents were enthusiastic about the e-portfolio because they were able to see that their children had enjoyed the experience. There is also the possibility that the parents were enthusiastic because they had more chance to view their children's work. In previous years the parents were only reported to at two parent/teacher/student conferences, the clearfile portfolios were sent home twice a year and then a final written report at the end of the year. Because e-portfolios were being trialled, the parents saw the e-portfolio three times instead of two, which meant they had an extra chance to see what their children had been doing at school. This suggestion is however beyond the scope of this research and is an area that could be investigated further in the future.

Many of the parents wanted to see actual work samples in the e-portfolio which showed handwriting, they wanted to see the maths tests included and they wanted an overall picture of where their child was at within the class, detailing the levels their child was working at. One of the teachers responded to this with “I think that is a very old fashioned idea and we need to challenge that, education and challenging them in that area” Many of the parents were successful within the traditional school system and some of them require more education as to what happens at school now, how learning is reported on, and how teachers assess. The school involved in this trial is a decile 10, and some of the traditional views expressed by the parents can be related to this. Half of the parents felt that the e-portfolio gave them a good understanding of their child’s next learning steps; the other half however felt that it had not. Again this is an area that will require more parent education so that they have a better understanding of the information they are looking at.

The parents were asked to compare the clearfile and the e-portfolio. Almost half of the parents preferred the clearfile portfolio because it gave them the tests, the handwriting samples and the teacher reported on each sample. The other half liked the e-portfolio because it contained more information, was easier to view and their children had enjoyed it more. Interestingly one parent had been disappointed with her child’s e-portfolio because it appeared to be a rush job that contained many spelling errors and rushed video clips. This is perhaps indicative to the parent of where her child is at with time management skills and shows very clearly an area that needs to be developed for the future for that child. This is perhaps a strength of the e-portfolio as it provides a very clear picture of what a child is capable of.

## Conclusions

This research set out to discover how the use of e-portfolios met the school goal of empowering learners, and what the implications were for the teachers and the school community. It specifically looked at three stakeholder groups within the school – learners, teachers and parents.

The students were empowered by the use of e-portfolios. The indicators of task empowerment: choice, meaningfulness, impact and competence were all evident within this task and the use of e-portfolios maximised the extent to which the students experienced these components (Luechauer & Shulman, 2002) The use of the e-portfolios contributed to the learners understanding of their next learning steps, they enjoyed the challenge of using technology to create a portfolio and they had increased pride in the work they were doing, as they now had a wider audience for their learning journey.

The impact on the classroom programme was positive. Whilst the teachers' workload had increased significantly, they all agree with the findings of Garthwaite and Verril (2003) who found that "the e-portfolios were a time consuming endeavour, but the rewards were well worth the effort" (p.27)

The teachers felt the main strength in the e-portfolio was the time the students took to reflect on each artifact they included. They felt the students reflections showed understanding of the learning that had taken place, and also provided next step feedback. The teachers also found that the students were much more motivated to work on their e-portfolio than they had ever been with their clearfile portfolio, which increased the positive impact of the implementation.

From what I observed, the parents were enthusiastic about the e-portfolios because their children had enjoyed the experience. However a major finding of this research is that many of the parents in the community need education as to why, and how teachers are assessing students learning within the classroom. Half of the parents in this research still want to see handwriting samples, test results and want to know where their child is in comparison to national averages. This is in conflict with the way teachers are assessing the needs of the students, where feedback on learning and feed forward on next learning steps is the focus.

## Considerations

There are some aspects that need to be considered before full scale implementation of e-portfolios can take place.

- The teachers in this research struggled at times because of technology issues. The infrastructure of the school computers needs to be considered if e-portfolios are to replace clearfile portfolios. The teachers had limited access to the computer suite and the computers in their classrooms did not all run the version of PowerPoint needed to create the e-portfolios, this caused timetabling issues and added to teacher workload.

- Whilst the students having complete choice over their e-portfolio content was a positive aspect for the students, the teachers felt that as educators they will need to make some decisions for the students about content to ensure that the core subject areas are reported on to parents.
- The students within this research were all fairly confident users of ICT tools. Teacher workload would have increased if the students had not been as capable. If e-portfolios take the place of clearfile portfolios, the students who are not capable and confident ICT users will need extra teacher or peer support in order to be successful.
- If e-portfolios are implemented across the senior teams, then storage on the server will become an issue in the future. This will need to be addressed so that students, teachers and parents know how long information will be stored for.

## **Summary**

E-portfolios did empower the students in this study. The impact on the classroom did involve an increased teacher workload, but the positive outcomes for the students outweighed the increase in work. The parents liked getting an overview of their child's learning across the curriculum, but many of the parents need some help in understanding how schools of today differ from their schooling experience.

E-portfolios had an impact on all of the stakeholders within this research, now the exciting journey can begin as the school looks to implementing e-portfolios instead of the traditional clearfile portfolios because as Serge Ravert (2005) states:

“In a digital world, citizens must be able to present themselves digitally”

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## Appendix 1 Consent Forms



20 April, 2006

Dear Parents

For the past ten years I have been a teacher at Cashmere Primary School and since 2003 I have been the ICT Lead Teacher. This year I am working as an e-learning Fellow under the guidance of the Ministry of Education and CORE Education.

The focus of the fellowship is to produce a piece of original research in the area of teaching and learning with ICT. The purpose of my research is to explore how the use of e-portfolios meets the school goal of empowering learners, and what the implications are for the teachers and the school community. This letter is to request permission for your child's participation in my research.

I intend the data collection component of my research to commence in May. All of the children in the Year 7/8 IDEAL group will be part of the project, and from this group eight children will be identified to be part of the case study group in term two. No risks are foreseen for the children participating in this project and you may withdraw your child at any time.

Data collected will be in the form of observations in the classroom, interviews with the children, questionnaires at the beginning of term two and three, and the children's e-portfolio. I will also be gathering data from the children's classroom teachers through interviews, observations and questionnaires. In order to look at the implications of e-portfolios on the school community, you will be asked to complete a questionnaire towards the end of term two as well, and those parents who have children in the case study group will be asked to take part in a formal interview at the end of term two. All raw data will be confidential to me and the members of the CORE Education Research team and will be stored securely for up to three years and will then be destroyed.

The information collected will provide the basis for my final project and will be seen by my supervisor, the CORE Education research team, the Ministry of Education and other interested community and education groups. No information that could identify your child will be used in any publication without your written permission.

I am carrying out this research under the supervision of Sandra Williamson-Leadley, who can be contacted at CORE Education on 03 379 6621. She will be happy to discuss any concerns you may have about your child's participation in this project. In addition, I am available to talk with you regarding any queries you may have. My contact number is 03 960 4723.

Kerry Hall  
2006

40



Thank you for taking the time to read and consider this information. Please complete and return the form if you consent to you and your child taking part in the research.

Yours faithfully

Kerry Hall

### **Consent for Parents/Caregivers**

I have read and understood the information in this letter dated April 20, 2006. I agree to take part in the observations, interviews and questionnaires as outlined and to Kerry Hall using the information I provide in her e-fellowship project.

Child's Name:

I understand that the research will involve the following data gathering activities, and consent to the researchers using these materials for their research

- The collection of written and electronically stored examples of student work, learning activities and questionnaires
- Some recorded interviews with students about their learning
- Video tape recordings of learning activities.

I also understand that:

- I may withdraw my child from the research at any time
- All raw data collected for the research will be kept confidential to myself and the research team at CORE Education
- Some anonymous, non-attributable examples of student work or other data may be used in publications of the research

As a parent/caregiver I understand that I will be required to complete a questionnaire at the end of term two.

I also understand that if my child is chosen for the case study group, I will be required to take part in a formal interview at the end of term two.

Parent/Caregiver name:

Signature:

Date:



April 20, 2006

Dear Colleague

As you are aware this year I am working as an e-learning fellow under the guidance of the Ministry of Education and CORE Education.

The focus of the fellowship is to produce a piece of original research in the area of teaching and learning with ICT. The purpose of my research is to explore how the use of e-portfolios meets the school goal of empowering learners, and what the implications are for the teachers and the school community. This letter is to request your participation in my research project.

I intend the data collection component of my research to commence in May. All of the children in the Year 7/8 IDEAL group will be part of the project, and from this group eight children will be identified to be part of the case study group in term two.

In my research I wish to include information and opinions from the teachers in the senior school. This will be in the form of formal and informal interviews during term two and three. The informal interviews will be of the quick chat variety over coffee and the formal interviews will be audio taped approximately once a month. There will also be a written questionnaire at the end of term two. Each week I will also spend approximately one hour in your classroom, observing the children who are in the IDEAL group and looking for specific indicators in relation to the impact on the classroom programme. The information you provide in these interviews, questionnaires and through the classroom observations will be analysed and may become part of my final work. Any raw data I collect will be confidential to me and members of the CORE Education research team. No information that could identify you will be used in any publication. The data will be stored securely for no more than three years and will then be destroyed.

The information collected will provide the basis for my final project and will be seen by my supervisor, the CORE Education research team, the Ministry of Education and other interested community and education groups. Neither the schools name nor the names of specific teachers or students will be identified in any publications coming from the research without prior written permission.

Thank you for taking the time to read and consider this information. Please complete and return the form if you consent to participating in this research.

Yours faithfully

Kerry Hall  
Kerry Hall  
2006

## Consent for classroom teachers at Cashmere Primary School

I have read and understood the information in this letter dated April 20 2006. I agree to take part in the observations, interviews and questionnaires as outlined and to Kerry Hall using the information I provide in her e-fellowship project.

Name:

I give permission:

Please Circle

I understand that the research will involve the following data gathering activities, and consent to the researchers using these materials for their research

- Questionnaires
- Observations in the classroom
- Interviews, both formal and informal

I also understand that:

- All raw data collected for the research will be kept confidential to myself and the research team at CORE Education
- Some anonymous, non-attributable examples or other data may be used in publications of the research

Signature:

Date:

April 20, 2006

Dear Jacqui

As you are aware this year I am working as an e-learning fellow under the guidance of the Ministry of Education and CORE Education.

The focus of the fellowship is to produce a piece of original research in the area of teaching and learning with ICT. The purpose of my research is to explore how the use of e-portfolios meets the school goal of empowering learners, and what the implications are for the teachers and the school community. This letter is to request your participation in my research project.

I intend the data collection component of my research to commence in May. All of the children in the Year 7/8 IDEAL group will be part of the project, and from this group eight children will be identified to be part of the case study group in term two.

In my research I wish to include information and opinions from the teachers in the senior school. This will be in the form of formal and informal interviews during term two, a written questionnaire at the beginning of term two and three, and observations within each senior school classrooms, observing the children who are in the IDEAL group and looking for specific indicators in relation to the impact on the classroom programme. I will also be collecting information from the children and their parents. The children will take part in formal interviews, observations of them working in the classroom, questionnaires and I will be looking at their e-portfolios as well. In order to look at the implications of e-portfolios on the school community, I will be asking all parents of the children in the IDEAL group to complete a questionnaire at the end of term two, and the parents of the children in the case study group will be asked to take part in a formal interview at the end of term two.

Any raw data I collect will be confidential to me and members of the CORE Education research team. The data will be stored securely for no more than three years and will then be destroyed.

The information collected will provide the basis for my final project and will be seen by my supervisor, the CORE Education research team, the Ministry of Education and other interested community and education groups. Neither the schools name nor the names of specific teachers or students will be identified in any publications coming from the research without prior written permission.

I have attached a copy of my research proposal, if you have any questions please don't hesitate to contact me.

Yours faithfully

Kerry Hall

Kerry Hall  
2006

## **Consent form for Principal**

I have read and understood the information in this letter dated April 20 2006. I give consent for the school, teachers and students of Cashmere Primary, to be involved in this project and to Kerry Hall using the information they provide in her e-fellowship project.

Name:

Signature:

Date:

## Questionnaire for Parents May 2006

Child's name \_\_\_\_\_ Room \_\_\_\_\_

**What are the implications for the school community through the introduction of e-portfolios?**

Did you see your child's e-portfolio at the Parent/Student Conferences  
YES/NO

*If no, you do not need to complete the remainder of the questionnaire*

Did the e-portfolio provide a picture of your child's learning from term one?  
YES/NO

Please comment:

In what ways, if any, has the use of e-portfolios changed your understanding of your child's next learning steps?

What other information would you like to see included in your child's e-portfolio?

What do you see as the differences between the current clear file portfolio and the e-portfolio?

Do you have any other comments you would like to make?

Thank you for taking the time to complete this questionnaire. Please return it to your child's teacher by **Thursday 25 May**.

## **Questionnaire for Teachers:**

**NAME** \_\_\_\_\_

**What is the impact on the classroom programme when e-portfolios are implemented?**

Did the e-portfolios provide a picture of learning from term one? YES/NO  
Please comment:

How do you see e-portfolios enhancing children's learning?

What other information would you like to see included in the e-portfolios?

What do you see as the differences between the current clear file portfolio and the e-portfolio



What support do you think you will need in the classroom for the implementation of e-portfolios to be successful?

What are you most apprehensive about in relation to the implementation of e-portfolios within the classroom programme?

Are there any other comments you would like to make?

Thank you for taking the time to complete this questionnaire. Please return it to me by **Thursday 25 May** and then organize a duty slot you would like me to cover for you over the following week.

Kerry

## Questionnaire for Children May 2006

Name \_\_\_\_\_

1. What did you use to create your e-portfolio? Circle the ICT's and software you used:

Digital camera	Word	Photo Story 3	Paint	Internet
Digital video camera	PowerPoint	Scanner	Photo Editing Software	Other:
Voice recording	Excel	Publisher	Inspiration	

2. What did you like/not like about creating your e-portfolio?

3. What changes would you make to your e-portfolio?

4. Do you think your e-portfolio reflected your learning from term one? YES/NO  
Please comment:

5. If you were able to choose whatever you wanted to include in your e-portfolio about what you have learned, what would you include and why?

6. What changes have been made to the class programme now that you are using e-portfolios?

Do you feel this has given you more or less control over what you learn?  
Why/Why not?

7. How has the e-portfolio made it easier/not easier to see your next learning steps?  
Give examples:

8. What support would you need to make your next e-portfolio more successful?

9. Are there any other comments you would like to make?