

WAIKATO INSTITUTE OF TECHNOLOGY

# 'eLectrifying' ECE Practicum

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A pilot study on implementing ePortfolios for  
use in Early Childhood Initial Teacher  
Education Practicum Assessment at Wintec

**Jeremy Briggs & Athene Jensen**

**School of Education**

**24/01/2013**

## Executive Summary

A pilot project was conducted to implement the use of the Mahara ePortfolio system for practicum assessment and learning activities. Following the reconceptualisation and adaption of the current assessment activities to the online system, data was collected from those involved. Students and lecturers were interviewed, students were given a questionnaire and formal and informal anecdotal evidence from students, lecturers and mentors was included. The data was analysed in terms of five key research questions:

1. What are students' perceptions of the ePortfolio system?
2. Does the use of Mahara strengthen the triadic relationship between student, mentor and visiting lecturer?
3. Do the ePortfolios make the assessment tasks authentic and relevant to students, industry and practicum experiences?
4. How are students using the technology?
5. How are lecturers using the supporting technology?

Findings indicate that students perceived the ePortfolio system itself in a mostly positive light, enabling flexibility and use of multimedia, but that lack of training hindered their confidence levels and made the assessment tasks 'daunting' and 'time consuming'. Despite the issues surrounding training, students were able to explore, experiment and problem solve with different functions and tools, showing that the system is manageable for most students.

While improving student/lecturer/mentor relationships was a key reason for making the change to the online system, the pilot showed the system does have potential to do this but that more training for all three parties needs to happen in order for them to take full advantage of this feature. Mentors in particular struggled to use the system, which was due to a lack of training and possibly enthusiasm on the mentors' behalf.

The adapted assessment tasks were seen by students as relevant to their practice and enabled them to use their own work for evidence and reflection.

The technology that lecturers used to support their interaction with the ePortfolio system were seen by the majority as inadequate and more consideration needs to be given to which ones to purchase for the next iteration of the project.

Recommendations for the next iteration of the project include more detailed training and more of a focus on including mentors.

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## Introduction to the Project

This report outlines the results of data collection around a pilot project to adapt learning and assessment activities in a first year Early Childhood Education Teaching Practicum to an online format. An online ePortfolio system was selected (called 'Mahara' – see [www.mahara.org](http://www.mahara.org)) and a project team worked to reconceptualise the paper-based requirements to fit the online system and take advantage of all the benefits the online environment affords.

The reconceptualisation and development happened in semester one 2012 at the end of which students were introduced to the system, ready to start their work in semester two. A core group of Practicum Visiting Lecturers were involved in the development and were also the ones to implement the changes with the students.

Data was collected in the forms of

- interviews with students and visiting lecturers
- a questionnaire handed out to students at the end of the teaching year
- observations made of students' ePortfolios matched against a checklist of features
- Informal discussions and anecdotal evidence from students and lecturers as well as the results of a formal meeting with mentors served as rich sources of data and are also referred to in this report.

The purpose of the research was to answer the research questions in order to help guide and justify decisions about the further rollout of the system, both within the programme it was piloted in and in other areas of the institution that are looking to utilise the same or similar online systems.

The research questions are as follows:

**Research Question 1:**

*What are students' perceptions of the ePortfolio system?*

**Research Question 2:**

*Does the use of Mahara strengthen the triadic relationship between student, mentor and visiting lecturer?*

**Research Question 3:**

*Do the ePortfolios make the assessment tasks authentic and relevant to students, industry and practicum experiences?*

**Research Question 4:**

*How are students using the technology?*

**Research Question 5:**

*How are lecturers using the supporting technology?*

The results within this report are grouped by research question with overall conclusions at the end.

## Results

### Research Question 1: What are students' perceptions of the ePortfolio system?

#### Questionnaire Results:

##### *Workload:*

An overwhelming majority (90%) agreed that learning to use the system was time consuming but 60% agreed that it was manageable.

There are several factors that could have contributed to this perception:

This is probably a by-product of the timing of the pilot programme, in that the students were introduced to the system only part-way through the year. In one semester they had to familiarise themselves with the online system as well as produce the actual content for assessment.

Data from the interviews (see below) alludes to a perception amongst students that learning to use the online system was 'extra' to all the learning they had completed in the semester one for the paper-based system, and extra to the work they had to complete for their semester two assessment. This perception could have also influenced the number of 'strong' responses to this particular question.

Also, the nature of the assessment (both paper-based and online) means some students will always naturally perceive it as a lot of work. The nature of the assessment could easily have influenced the students' responses when thinking about the system only.

It must be noted that while the schedule of training may not have been ideal, only 4 respondents didn't accept the extra workload as manageable.

##### *Enjoyment:*

Just over half the respondents (57%) said they enjoyed developing their ePortfolio while only 2 of the 30 said they didn't.

While we don't have a baseline for how this particular student cohort would have 'enjoyed' the paper-based version, a majority of students reporting that they enjoyed working on an assessment seems to be quite a positive result.

11 of the 30 respondents were 'unsure' about their opinion to this question. This is a high number of 'unsure' responses which will need to be investigated further in order to fully understand the results to this particular question.

##### *Validity:*

70% of respondents agreed that the system is a good way for presenting their practicum work, which shows students are seeing the benefits to utilising the online system.

Four students didn't agree with this statement. Some possible sources for this perception are (as indicated by the responses to question 23):

- The trouble mentors had using the system,
- The lack of confidence the lecturers had in the system,
- The short timeframe the students had to learn and then utilise the system.

All these points originate with the training schedule (for staff, students and mentors) which will have already been majorly overhauled for the next iteration of this project. The biggest concern we have is getting buy-in from mentors as indicated later in this report.

### ***Confidence:***

A clear majority (77%) of respondents indicated that their confidence in using the online system developed over the semester – which shows that, due to the training and/or individual and/or assisted practice, students were able to start to ‘get the hang of things’.

Five students disagreed with this statement, which isn’t too surprising considering all the technical issues that happened with the system during the pilot. Hopefully these issues will be minimised in further iterations of the project, which will hopefully help to instil more faith in the students (and lecturers) towards the system.

It goes without saying that more experience on everyone’s part will only make this statistic improve.

### ***Customisability:***

Just over one third (37%) of respondents felt they were able to set up the content how they wanted.

This could be an indication of how confident they felt using the system, or an indication of the features of the system itself (the system itself is still developing and the installation used for this project only had a selection of possible features installed). This area would need to be researched in further depth, but it can be said that most students seem to have experienced some disconnect between what they wanted and what they could do when presenting their work.

### ***Interview Results:***

The interviews brought up several themes additional to the questionnaire but also helped to add detail to some of the themes that the questionnaire asked about.

### ***Training and Timeframe:***

Further to students thinking the system took a long time to learn (see Questionnaire Results), the interviews found that students would have liked more time to ease themselves into the system and to practice and “play” with it in their own time as well as in class. The interviewees valued working with the system in their own time to improve their confidence. In terms of the amount of teacher led training that was provided, there was a mixture of satisfaction with what was provided and a desire for more. Perhaps the desire for more was more of a desire for more allocated time to “play”. It may also have been due to the short one semester timeframe.

The interview results reiterated concerns with introducing the system part-way during the year and with lecturers not being confident in the system. The perception is that the system took a lot of time and effort to learn in order to be confident enough to complete important assessments.

It is anticipated that given the amount of class time that is being devoted to training in the next iteration of the project (for staff, students and mentors), these issues will be drastically minimised.

### ***Learning Style & Autonomous Learning Skills:***

There was a strong indication that the students interviewed (and possibly others) view the online system as 'suited to a particular learning style'. They perceived that the system would be easier to learn and less time consuming for those who are more inclined to be confident with computers. When asked to rate the online system as a whole, one interviewee said "[It isn't] a good thing or a bad thing, if you're this type of person who works like that then that's fine". Another said "If you know your way around computers, it's valuable".

A lot of the discussion around confidence with learning the system and learning style also involved allusions to autonomous learning skills. Online teaching/learning methods are supposed to encourage (among others) such skills as the ability to motivate yourself without supervision, managing and pacing your time, seeking help when needed. The interviewees discussed how they liked being able to do things in their own time (practice and upload content) but that this system would be more time consuming for people who needed more guidance.

It is hoped that such autonomous learning skills will be part of the learning while using the system as opposed to students who lack the skills floundering while not learning. It also needs to be stated that the paper-based version still required such skills just with less need for learning a new system.

### ***Flexibility of content:***

One interviewee thought the adapted assessment was "less directive" and "less guided", meaning the instructions were less spelled out and more open to interpretation. She believed the new instructions made her think about what to do next instead of being told. To her this made it harder to know what was expected (specifically in relation to word limits).

This relates to the autonomous learning skills as mentioned above and was part of the intention surrounding the development of the adapted assessment. The interviewee did mention that she thought it would make it harder for those students who struggle ("*flounder*") with such skills.

Another interviewee reported feeling intimidated knowing there was "*a right or wrong way to do it*". This issue should be addressed within the student-visiting lecturer relationship and the fact that not all of this relationship is online.

### ***Workload:***

One interviewee stated she thought the online version was less work than the paper-based system, but that the amount of effort needed to learn the online system meant the total workload for the online system ended up being more time consuming. This echoes the results of the first question in the questionnaire. She also quantified this by saying it would be less for students confident with computers.

There was a clear perception (also noticed through various unrecorded conversations with students) that learning the online system was 'extra' to their required assessment. This, combined with the timeframe, added extra pressure to students. One interviewee also reported feeling pressure after being told "*it's not hard*".

Hopefully this will be mitigated by the improved in-class training schedule being implemented in the next iteration of the project. This training should inform students that the skills they gain while learning to use the system will be valuable to their education and vocation.

All interviewees mentioned how working with the system had gotten easier over time, and/or how they believed it would get easier with more practice and engagement.

### **Enjoyment:**

An interesting point raised was that despite the workload and timing concerns, one interviewee reported enjoying completing the TRIP page. Speculative reasons for this may include:

- Possibly *because* of all the time and effort she put into it she felt satisfied with the final outcome
- Her final perception of the process relative to her initial negative perception at the start.

While not going as far as saying she enjoyed it, another interviewee did express positive perceptions of the system as a good tool once she got used to it.

### **Accessibility:**

There was a clear indication that the interviewees liked the accessibility of the online system – with one or two reservations.

One interviewee stated: *“I really like [Mahara] for my TRIP. I really like it because my folder is in my bedroom somewhere, but [the ePortfolio]’s there; you log on and it’s there”* and another said they liked it because they could have *“everything on there”* and that it was easy to access in their own time.

The tutor who was interviewed also added to this by stating she liked the feature of instant feedback due to the instantly accessible nature of the system.

There was some concern expressed over privacy/security issues surrounding students uploading their work to the internet. One interviewee said she still keeps ‘hard copies’ of all her work but this could be a spin-off from being required to keep everything on paper before the system was fully implemented.

### **Specific Aspects of the system:**

The interviews showed mixed perceptions of different aspects of the system. For instance: one interviewee was excited about the ability to incorporate photos into her work and to make them into a web page, whereas another interviewee discussed how some functions of the system were either pointless (i.e. the friends feature) or difficult to use. When asked about the ability to share her work with others she expressed a possible reluctance in her peers citing fears of plagiarism, even though she herself had shared and used her own work to guide and show her peers.

### **Summary of findings for Question 1: What are students’ perceptions of the ePortfolio system?**

A lot of the perceptions collected seemed to be influenced by the fact that the students were introduced to the system part-way through the year and the impact this had on the time they had to familiarise themselves with the system (including the training they received).

The overall perception seems to be that the ePortfolio system itself has the potential to be useful and to support enjoyable and valid assessment work, but that it requires the right amount of training and practice time for it to not be too daunting.



It is anticipated that the next iteration of training will help to minimise the negative feelings around training by devoting more class time to practice and providing more avenues of feedback *before* students are handed over to their visiting lecturers.

## Research question 2: Does the use of Mahara strengthen the triadic relationship between student, mentor and visiting lecturer?

### Student and Visiting lecturer relationship

The majority of students who responded to the questionnaire (70%) indicated that they felt that they got regular and quality feedback from the lecturer. However nine disagreed with this statement. Part of the reason for this may be that four students indicated they had not shared all their pages with their visiting lecturer thus leaving it impossible for the visiting lecturer to comment. Of the other five respondents reasons can only be surmised. These may include students not posting work to comment on (as mentioned by a visiting lecturer during an interview), lack of training for visiting lecturers in using Mahara, or lack of understanding of the behalf of the visiting lecturer on the nature of ePortfolios that allows regular and instantaneous feedback that is beneficial in developing an effective relationship with the student.

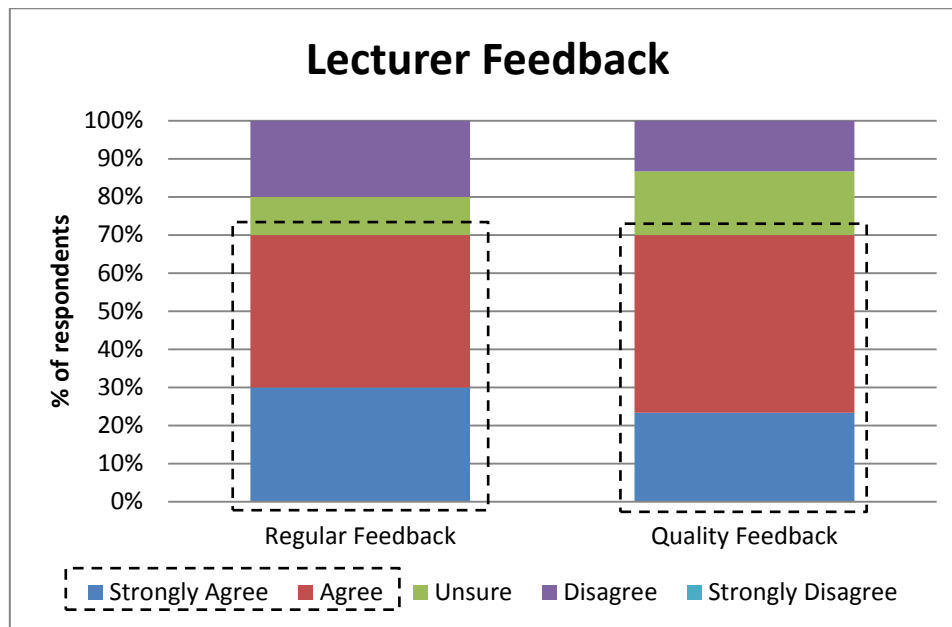


Figure 1: This graph shows how the majority of respondents (70%) felt that they received regular *and* quality feedback from their lecturer.

The ability for visiting lecturers to regularly feedback on the students work was identified by interviewees as an important aspect of building relationships between students and lecturers and in encouraging motivation. When discussing how the use of the ePortfolio has influenced her relationship with her visiting lecturer one student responded;

*“Oh I definitely think it’s been good, because you can get that feedback straightaway, you don’t have to wait for your next visit. [My lecturer goes] on every Monday and I go on every Monday night, expecting, hoping, yay she’s been on and provided some comments and feedback, so that’s definitely been helpful for me, to keep me motivated and keep me going”.*

The ability to communicate frequently with the students through the Mahara ePortfolio system was identified by a visiting lecturer as a positive catalyst in building relationships with students. She commented;

*"It sort of seems a bit more personal somehow, because you'll read something a student's written and then given them a comment on it, feedback, and then they'll give you a comment back to that. It actually becomes quite personal, which is actually really nice because you're building that relationship... So yes definitely, I think it would definitely enhance relationships with the students".*

However the visiting lecturer also identified that this building of relationships was dependant on the level of engagement by her students:

*"The ones who are on to it and have got things up there, the communication is quite a lot. We're communicating maybe every second or third day. And it varies on how much they've got into using the Mahara themselves".*

The lecturer also found that as the relationship with the students developed and she was aware a student was working on an assessment piece she wanted to check online, "to see what they've done with it". Whilst the visiting lecturer acknowledges that "the whole quick feedback is really, really relevant, and we need to be getting more into that with our practice as a field base course" she also voices concern with time management when she notes that "I've only got four students at the moment doing that, what it would be like when I've got 24 I don't know".

The importance of timely feedback on students work highlights the need for visiting lecturers to organise regular times to check on and respond to students work.

Many comments on the questionnaire sheet indicated students wanted visiting lecturers to be more knowledgeable about the Mahara system. One student stated in an interview that "...some tutors are not confident in using [Mahara], and don't promote it". Another student spoke extensively about how visiting lecturers competence on Mahara influenced student perceptions of the introduction of the ePortfolios. Her feedback was;

*"Actually, I would say the other biggest thing that has sent a negative thing about [Mahara] is, you know people talk as they do, is the tutors themselves being knowledgeable about it and not going to my tutor "oh how do you do this?", "oh I'm actually not too sure about that myself, I need to go away and find out." That just sends an oh my god, they don't even know what they're doing and they're trying to teach it to us kind of thing amongst people".*

It was not only students who identified this. One of the visiting lecturers identified that she wanted more training:

*"I feel like I'm just wading around, experimenting, most of the time. Which is a reasonable way to learn but it would be good to have a week long or some really thorough grounding in it so that you feel like you can help the students. Most of the time I feel like I'm not even half a step ahead of them. I don't like that".*

This feedback indicates that visiting lecturers need to be confident in the use of the Mahara system to develop the students trust in them. Clearly there is a need for further training for visiting

lecturers in both the use of the system itself and the potential benefits identified by interviewees and questionnaire responses.

This need for training for visiting lectures has been addressed and all visiting lecturers will attend a two day training in January 2013.

Overall twenty of the thirty students to complete the questionnaire agreed that the online practicum tools have helped develop an effective relationship with their visiting lecturer. This is a positive outcome for the initial roll out period of the use of ePortfolios. With visiting lecturer training and commitment to making regular feedback hopefully we can increase the student perception that effective relationships have been built.

### Student and Mentor relationship

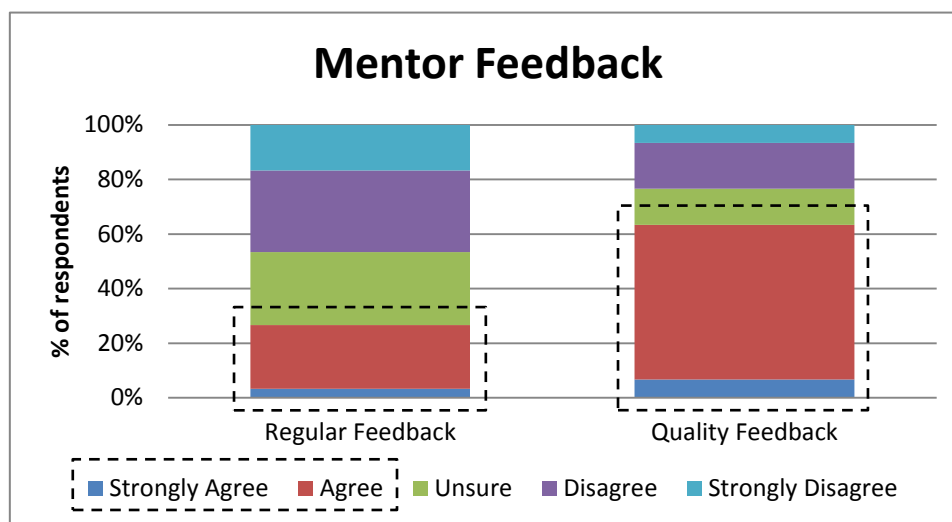


Figure 2: This graph shows how only a quarter of respondents (27%) felt they received regular feedback from their mentor, but that nearly two thirds of respondents (63%) perceived what feedback they got from their mentor as being 'quality'.

When asked if students got regular online feedback from their mentor only eight of the thirty respondents agreed they did. However nineteen of the thirty agreed that what feedback they did get was quality feedback. Even taking into account that eight respondents did not share all their pages with their mentor there is a majority of fourteen students who were unsure or disagreed that their mentors were giving regular feedback.

During an interview one student said that her mentor “seems to be quite happy with using it, when [she] sent her a link to go and place feedback when needed”. The student noted that her mentor only went online and made comments when she, the student, was due for a visit.

Another student discussed her mentor has had challenges using the online system but that they have worked together to make sure her mentor is making comments:

*“[My mentor], I haven’t gone back to [using] the URLs .... She did enjoy it, she’s gone on a few times and made some comments and stuff, and it’s because she’s not so computer savvy it’s been something that we’ve done together so that has definitely created more of a relationship because you’ve got a common interest kind of thing. But whether she*

*sees it as just an extra thing to do or not, I don't know but she still had to do it either way".*

When discussing mentor interaction on Mahara a visiting lecturer indicated that she had a mentor "that's flatly refusing" to use Mahara. She goes on to say that she suspects that it is because it is "*something they're not in control of and the students having to tell them what to do, how to do it*". While this is an extreme response it demonstrates a need for mentors to feel confident in using the Mahara feedback.

The interview and questionnaire responses indicate the need for further training for mentors regarding the use of and value of placing regular and quality feedback on students work.

Over the year two mentor meetings were held. The number of mentors that attended these meetings was five in April and eight in September. Considering the number of mentors working with our students this number is low. Further training evenings for mentors outlining how to use Mahara feedback tools and the importance of doing so will be organised for 2013.

Due to circumstances interviews with mentors were not held. This does not allow for the perspective of the mentor and how they feel the Mahara ePortfolio system has influenced relationships with their student. There is a need to do further research in this area in the future. However feedback from two mentor meetings held in April and September were recorded in note form and will be utilised to provide a mentor voice regarding their views of the use of the Mahara ePortfolio system.

During the April meeting staff commented on aspects that could potentially support the development of the working relationship between mentors and students. These included mentors having access to students work to check on. They commented that on the paper system (cycles/spirals) they weren't shown things like mentor meetings and what was said and would like to have the opportunity to comment on these.

There was a mixed response to the technology with one mentor responding she was 'techno savvy' and found it easier to comment electronically and others voicing concern and the need for further training so they could support students. This need for further training has been identified above.

The second meeting in September revealed a wide concern among mentors regarding confidentiality of children's information with students using the Mahara ePortfolio system to present assessments. The need for parents to be aware of what is happening to information kept on their children was also voiced. This has created some resistance from mentors who requested assurance that the system is safe and for clarification of what the system is as information for parents.

These concerns have been addressed. A document has been written and students will now be required to sign a declaration of confidentiality outlining the use of children's information. Another document outlining information for ECE centres and parents about ePortfolios has been written and will be included in mentor handbooks.

### Visiting lecturer and mentor relationship.

Students were asked in the questionnaire if their mentor and visiting lecturer communicated with each other in the feedback section of the online pages. Of the thirty responses only two agreed that they did. Of the remaining responses there were ten who unsure and eighteen who disagreed that communication took place. This shows that of the three dimensions in the triadic relationship between visiting lecturers, students and mentor that the visiting lecturer and mentor relationship is the least developed.

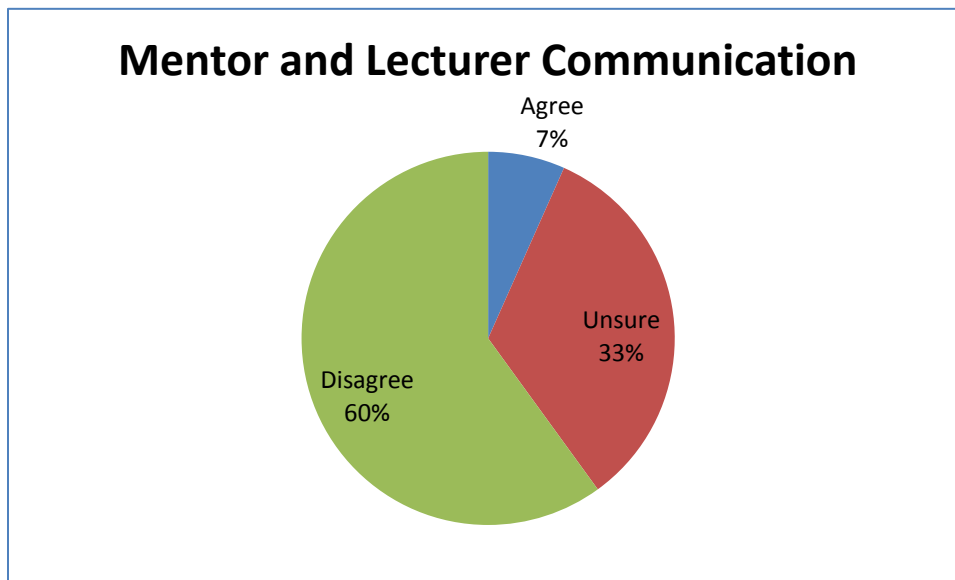


Figure 3: This graph shows how most students didn't think their mentor and lecturer communicated using the Mahara system

This communication between visiting lecturers and mentors can possibly be improved by creating a communication culture where visiting lecturers pose online questions to mentors and give responses to mentor comments. The outcome of doing this is exemplified below in an excerpt of feedback and communication on a student's 'learning outcomes' ePortfolio page.

#### [Mentor]

Message from [Mentor]

It is good to see the confidence that you have developed during your time at Kindergarten has moved with you into your TE. Again I have really enjoyed supporting you of the year and it has been made easy for me with you being so open and organised. I have loved how you have taken ideas that we have talked about and extended on them finding your own ways of carrying out a number of activities. This shows the skill of a confident and carrying teacher that is willing to take others suggestions and feedback. With your TE it was great that you kept in contact and this made it easy for the two of us to talk about any issue you may have come across. It is always good to experience childcare and Kindergarten as they are two very different providers and I feel you have done well.

#### [Visiting lecturer]

Thank you for the comments [Mentor]. It is great to hear that [Student] is able to work with comments and feedback from you her mentor, and extended on what you have discussed. Does

[Student] discuss the theoretical learning from class and how it looks implemented into practice?

**[Student]**

All the time [Visiting lecturer]!! I really enjoy taking theory from class and implementing and testing the reality of it in a ECE setting.

Thanks [Mentor] for all your support this year you have been amazing, going above and beyond the call of duty to answer my endless questions, looking forward to next year.

**[Mentor]**

Hi [visiting lecturer] thank you for coming out to our Kindergarten throughout the year, it has been great to work alongside you supporting [Student name]. In relation to your question, yes [Student name] always discusses what she is doing in class and the theoretical learning into her work at Kindergarten. [Student name] is very up front and clearly communicates how she needs to implement her learning into her everyday activities at Kindergarten. Once again thank you for your help this year and I look forward to working with you and [Student name] next year.

(sic)

### **Summary of findings for Question 2: Does the use of Mahara strengthen the triadic relationship between student, mentor and visiting lecturer?**

Student/visiting lecturer relationship:

- Regular feedback from visiting lecturers supported the development of effective relationships with students. This was dependant on the level of engagement by the student and frequency of which they posted work.
- A visiting lecturer found she wanted to engage with students' assessment, see what they had posted and respond to it. However she identified this was possible with 6 students but queried the time available to do this with a full allocation of students online.
- Students needed to trust that the visiting lecturer was confident in using Mahara and supported the use of Mahara. The need for further training was also identified by a visiting lecturer.
- A two day training workshop on Mahara ePortfolios has been organised for Jan 2013 to support visiting lecturer's knowledge and confidence in using the system and to highlight the importance of giving regular feedback to students.

Student/mentor relationship:

- As yet mentors in general are engaging at a minimal level with the feedback on student ePortfolio pages. More training for mentors may support them to be confident in engaging further and training evenings in a computer lab will be organised for 2013.
- There was wide concern by mentors regarding the confidentiality of children's information being used in the students' work in the online Mahara ePortfolio format. This has caused resistance in the mentors' engagement. To address this and alleviate concerns two documents have been prepared. Students will now be required to sign a confidentiality declaration regarding the use of children's information for assessment and a document outlining the nature of online ePortfolios and how children's information will be used has

been prepared for mentors and parents. These documents will be included in the 'Mentors handbook'.

Visiting lecturer/mentor relationship:

- Currently visiting lecturers and mentors are not communicating regularly through the ePortfolio system.
- Awareness and commitment by visiting lecturers to respond to mentors comments and to ask questions about the student is required. The need to do this will be highlighted in the January 2013 training for visiting lecturers.



### Research question 3: Do the ePortfolios make the assessment tasks authentic and relevant to students, industry and practicum experiences?

#### The TRIP page was relevant to what was happening in my practicum centre.

Students were asked in the questionnaire if they found the TRIP page was relevant to what was happening in their practicum centre. Of the 30 respondents a clear majority of 25 agreed that it was relevant. Three stated that they were unsure while only two disagreed.

During an interview a student was asked about her “experience using the TRIP page and how well it represents [her] practice”. The student responded,

“I enjoy the trip page. It has felt like a lot of work, because like I said it’s been such a long time and I think it definitely has reflected what’s happened. It’s truthful. I’ve enjoyed doing the trip page”.

The high percentage of students who responded positively to the relevance of TRIP pages tends to support this students statement.

#### The TRIP page supported my ability to plan for children based on their interests; implement and evaluate activities, interactions etc.

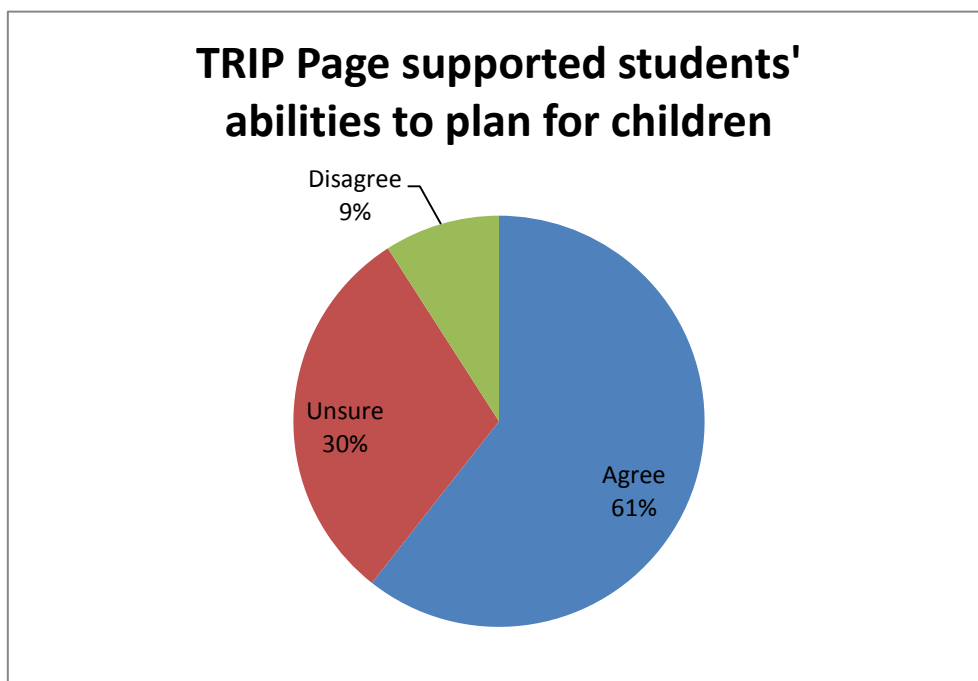


Figure 4: This graphs shows how the majority of students believed the TRIP page supported their abilities to plan for children.

Two thirds of students responded that they agreed that the TRIP page supported their ability to plan for children based on their interests and to implement and evaluate activities, interactions etc. Seven students indicated they were unsure while three disagreed with the statement.

While students saw the relevance of the TRIP page to reflect what was happening in their centres less were sure about whether it supported their ability to work through the planning,

implementation and evaluation process. This may be because of the minimal training or instruction given to the students in what was expected in the TRIP page process. This was indicated in the comments section of the questionnaire with comments such as:

- Would have been good to have a class dedicated to going step by step through TRIP (like the class on the cycle).
- If we had a in class TRIP page day, I believe we would have greater understood what we were doing from the start.
- If we had a set class on the TRIP pages it may have been a lot easier to understand 😊.

These sentiments were echoed in an interview with a student who stated, “I haven’t done a whole lot on the actual TRIP page, “it’s quite intimidating... it feels like there’s a right or wrong way to do it”.

The feedback by the students is rooted in the fact that they were instructed on how to complete a cycle in the Principles and Practice module then in second semester changed to the TRIP page model of presenting this work. In 2013 instruction in how to work through the TRIP page process will be given in Principles and Practice. This will address the students concerns voiced here and will give them an understanding of how the TRIP page supports their ability to plan, implement and evaluate effectively.

### **I linked course work and assessment from other modules to evidence my learning outcomes.**

When asked in the questionnaire if students linked course work and assessment from other modules to evidence their learning outcomes twenty-two respondents agreed that they did, seven responded they were unsure while one disagreed.

During an interview a visiting lecturer discussed with the interviewer (also a visiting lecturer) the use of other course work to evidence the learning outcomes which have replaced the competencies that were commented on by students and mentors and observed by visiting lecturers. The following conversation outlines possible ways students can use work from other modules:

Interviewer *I’m finding with one student in particular that she’s actually really drawing in other courses that she’s doing. She’s doing independently a Te Ataarangi course and she’s using the words that she’s learning there in her Te Reo and she’s also using the words that she’s doing with Rose in there. So she’s starting to draw on...*

Interviewee *A lot more cross, and I think you will end up with a lot more evidence for things as well. Like just looking at the competencies, with the paper version you just get words, words, words when they’re writing about their competencies and their learning outcomes. And to try and actually get them to give evidence for it is quite difficult.*

Interviewer *They could start using assignments couldn’t they?*

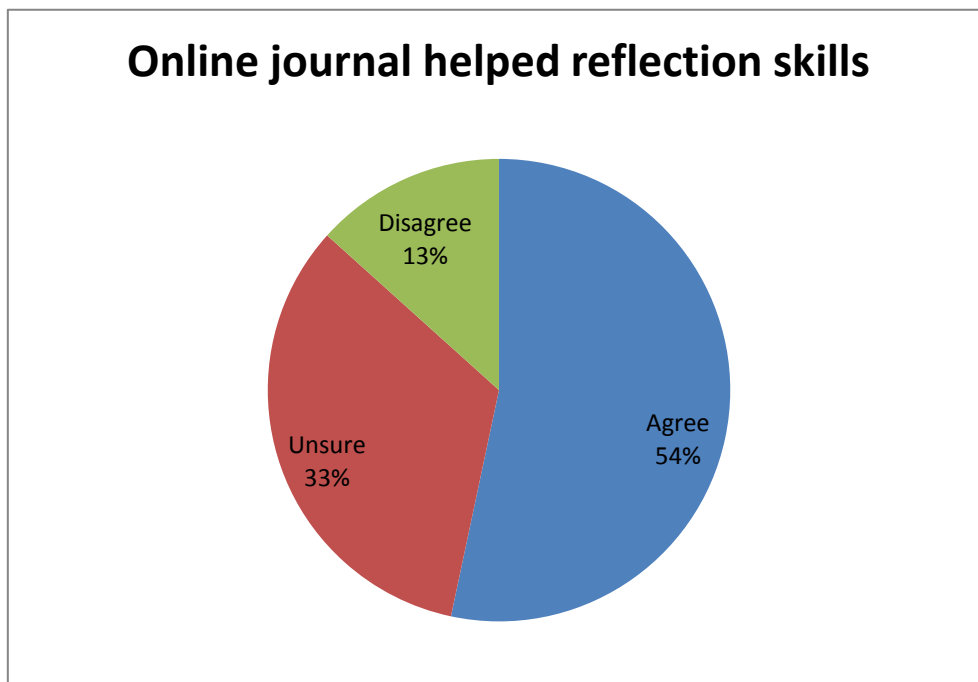
Interviewee *Yeah they could. Yeah exactly, yes they could.*

Interviewer *When it talks about the positive guidance techniques, one of mine said ‘I have shown that I am developing an understanding of this when I did the independent plan for the positive guidance’, and it was the assignment that I’d set them. She hasn’t done it yet, but I’ve said just upload it and add the link here.*

Interviewee *And the case study. That would be another really good example for the independent planning and things like that. A lot of it, even the resources that they do, there’d be a lot of links that were maybe not seen with the paper copy...*

Because the field based training model allows students to immediately test out theory that they learn in class in practice and the fact that some assessments are based on practical application, there is a lot of course work that students can use to evidence they are meeting the practicum learning outcomes.

**The online journal in the format outlined in the handbook has helped me to develop skills to reflect on practice.**



**Figure 5: This graph shows that over half the respondents felt that the online journals helped them to reflect on their practice.**

In the questionnaire students were asked if the online journal in the format outlined in the handbook has helped them to develop skills to reflect on practice. Of the thirty respondents sixteen agreed it had, ten were unsure and four responded that they disagreed it had helped them to develop skills to reflect on practice.

In one interview with a student the interviewer stated that in a few years’ time it would be interesting to look back on her journal to which she replied, “Oh my goodness, even looking back at

the beginning of the year it's like, 'what were you on?'. This indicates that the journal is being utilised, on some level, as a reflection tool by some students.

When asked in an interview where she was seeing students being reflective a visiting lecturer responded,

"In the journals, and even just messaging backwards and forwards with using Mahara. It sort of seems a bit more personal somehow, because you'll read something a student's written and then given them a comment on it, feedback, and then they'll give you a comment back to that".

This highlights the importance of regular and quality feedback from the visiting lecturer not only in building effective relationships, as highlighted earlier, but also to assisting students to reflect on their written work and practice.

### **Summary of findings for Question 3: Do the ePortfolios make the assessment tasks authentic and relevant to students, industry and practicum experiences?**

- Students generally acknowledged that work done on the TRIP pages is relevant to what is taking place in their practicum setting.
- The need for more in-depth instruction in what is required for the TRIP page was highlighted by students. This need will be met with the introduction and instruction in using Mahara ePortfolios to present the plan, implement and evaluate process in Principles and Practice in 2013.
- Students are using work from other modules to evidence the practicum learning outcomes. This creates stronger links between the theory taught across a range of modules and the students' field based practice.
- Students gave mixed responses about whether the journal format supported the development of reflection skills. However interviews indicated that some students are already reviewing previous entries. The visiting lecturer also identified that by providing feedback and asking questions reflection on the students' behalf can be encouraged.

## Research question 4: How are students using the technology?

A range of various features was selected for this survey. These features were chosen to provide answers to the following questions:

- a) Have students utilised core features?
- b) Have students utilised more than just the core required features?
- c) Which features have students used to complete their ePortfolio?

Results of the student use survey are represented in the following tables:

### *a) Have students utilised core features?*

Question/Feature:	Analysis:
<i>How many pictures are students including on their TRIP pages?</i>	The sample used an average of 11.3 pictures per TRIP page, with 44 being the most used (presented in mostly galleries) and 4 being the least. All students included pictures which is the most important result here. It's positive to see all students taking the advantage of this core feature.
<i>How many videos are students including in their TRIP pages?</i>	Only one student in the sample included a video. This is understandable since there were issues with uploading video files to the Mahara system.
<i>Are students linking directly to their journal for their trigger?</i>	Only 3 of the 10 students linked directly to a journal entry for their trigger. This is understandable due to the amount of apparent confusion students experienced during training. Instructions for the next iteration of training need to be clear about the need to link directly to a journal entry.
<i>Have students shared their pages according to requirements?</i>	Most of the sample have not shared all the required pages with all the required people. This includes both sharing with their visiting lecturer <i>and</i> creating a secret URL for their mentor. This is very interesting since it was specifically included in training and was an integral part of the assessment process. It is possible that at the time of the survey students had stopped sharing and deleted the secret URLs which is more of a desirable action than not. But if this isn't the case more will need to be done next time to ensure students understand the principle of sharing and know the steps to doing so correctly. This is an aspect that may have impacted on the poor outcomes regarding relationships with mentors (see Question Two above), and will need to be addressed in order to improve that key indicator of success for this project.
<i>Have students used the plans tool as per instructions?</i>	4/10 students did not use the plan tool despite instructions telling them to. This is interesting in that students who didn't use this feature showed initiative in using a different feature that they may have felt more comfortable with. During the period of the pilot project, lecturers discovered that this tool may not be as suitable to the task as was initially thought, so to see students fulfilling the requirements using other tools is an

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encouraging sign.

<i>Have students used the comments/feedback tool at the bottom of their pages to communicate?</i>	Most students did not use the comment/feedback tool to communicate with their lecturer/mentor. One of the hypothesised benefits of this project was that this type of tool would facilitate communication between the parties involved. Although anecdotal evidence suggests that the sample may not be representative of the whole group, it is definitely an important point to remember when designing the training for the next iteration of the project.
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**Analysis of overall results for this question:**

It is interesting that some of the core features of the system that the researchers thought would provide the most benefit were under (or miss-) utilised. More research will have to be done to find out why this was the case. Possibly more training is needed for both staff and students on how these features can be used for maximum advantage.

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***b) Have students utilised more than just the core required features?***

<b>Question/Feature:</b>	<b>Analysis:</b>
<i>Have students uploaded a profile photo?</i>	8/10 students uploaded a profile photo. Most students seem proficient at this.
<i>Have students done any work on developing their profile page?</i>	7/10 students developed their profile page. While some developed this only minimally, this shows that students are willing to show some sort of ownership for their ePortfolios. Some students had developed them extensively.
<i>How many friends have the students made?</i>	The sample had an average of 14.2 friends with the lowest having 2 friends and the highest having 32. While befriending people on the system was not required, anecdotal evidence suggests this was a feature familiar to students who started using it in the earliest stages of learning the system.
<i>Have students utilised their profile wall postings?</i>	Half the sample had utilised the wall post feature which is a way to communicate with someone in a more public manner. Most of the comments were from lecturers.
<i>Have students created pages extra to the requirements?</i>	7/10 students had created extra pages. This indicates either a) these students were willing to put extra effort into doing things over and above the requirements and/or b) they thought outside the instructions and created their own solutions for displaying/collating information.
<i>Have students altered the number of column and/or the theme on their pages?</i>	Almost all students altered the number of columns. And half the sample changed the theme on at least one of their pages. This shows that students are finding their way around the page formatting feature (one or two extra clicks are required to find this feature).
<i>Have students altered the text/font of words in their pages?</i>	Most students put effort into altering their text in some way or another. This may indicate that students are willing to take the time to make their work look how they want and shows that they are engaging with the HTML editor tool.

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<i>Have students shared their pages with more than the required people?</i>	4/10 students shared their own pages with people who weren't their visiting lecturer. These were mostly specific individuals but some were shared with groups.
<i>Have students set date restrictions on shared pages?</i>	Portfolio observations indicate some students are using this feature although anecdotal evidence suggests some of these students aren't aware that they are. This may be because of an anomaly in the system.
<i>Have students set more than one secret URL for a page?</i>	4/10 students have created more than one secret URL for one or more of their pages. Because this feature wasn't taught more research would have to be done to see if students knew what they were doing when they did this and if they actually used both the links.
<i>Have students created their own groups?</i>	Some students have made their own groups - although finding out what was happening within these groups was outside the scope of this survey. This is another feature that is familiar to those students who use other social networking sites and creating of groups could indicate attempts to draw parallels between the more familiar system and this one.
<i>Have students been using the feature that allows comments on individual text boxes?</i>	Only one student utilised the text box comment feature. This is understandable because this feature was only added after the students and staff were initially trained. It is a valuable feature and will need to be incorporated into training for the next iteration of the project. The fact that only one student picked it up may be an indication that the feature is poorly integrated into the system. Personal experience of the researcher suggests it is unduly tricky to use.

**Analysis of overall results for this question:**

It seems that students were able to utilise many of the available features that were not specifically required by the assessment instructions and that may not have been specifically covered in general training. This is good to see and shows that students are able to explore and discover the features for themselves without the need for concerted training on every element.

There were some features that seem to have been used mistakenly or during 'exploration'. This is also good to see, but there should be some means of turning this mistaken discovery into purposeful and valid usage so that students can use these discoveries to their advantage.

It is interesting that the elements similar to social networking sites were used. This is a point that can be incorporated into further training to help build on students' current knowledge and experience to hopefully lessen the novelty of the ePortfolio system.

It is also interesting to note some of these results in relation to the fact that most students felt the system was time consuming to learn (see Question One section). While it may have been time consuming to learn, students still seem to value layout and appearance enough to put extra effort into learning the extra features. Hopefully with more time to familiarise themselves with all the features students will feel even more enabled to make their work look how they want it.

**c) Which features have students used to complete their ePortfolio?**

<b>Question/Feature:</b>	<b>Analysis:</b>
<i>Which content tools have students used?</i>	It was good to see a range of content tools being used to display information on their pages. As was expected text boxes were the most prolifically used with file attaching and image embedding most popular ways of including multimedia.
<i>How many words are students taking to complete their TRIP pages?</i>	The sample ranged from under 1000 words to over 10,000. There is a very weak correlation possibly showing that students who included more pictures included fewer words. This would need to be researched further to gain conclusive evidence though.
<i>How are students linking multimedia to their pages?</i>	The most popular method for attaching files to pages is the built in file attachment feature. This is important because at the moment students aren't allocated much space to store files for this. While the system was created with the intention of this being the preferred method, the introduction of a cloud repository plug-in to the system could mean a lot more flexibility. This will mean an extra facet for training though and so far has proven too much for some students. This will have to be taken into consideration for the next lot of training. It was good to see students taking good advantage of the image embedding tool as opposed to attaching them as files. This fits with the above finding that they value appearances of their work.
<i>Are students including links to outside webpages?</i>	8 of the 10 students included links to outside sites but they were mostly in reference lists. Only one student created links to other pages within her portfolio. The researchers envision this happening more as students become more familiar with the system.
<i>What file types are students linking to their pages?</i>	Mostly images and office documents attached (i.e. Word and PDF).
<i>How is feedback being provided on pages other than the TRIP page?</i>	It is interesting to note that the feedback/comment tool is not being used as much as was expected. While lecturers displayed proficiency at utilising this feature, students showed they were less confident by adding their own feedback in text boxes within the page. Several students had entered feedback from their mentor within these text boxes. This is not ideal since this feedback needs to come directly from the mentor and should not be passed 'through' the students in order to get it onto the system. This reflects the finding that mentors were struggling to utilise the system (as indicated in various areas of this report). More concerted training on this will be needed for more uniformity and the most advantageous use of the available features available.
<i>What kinds of evidence are provided on the Teaching Resources Page?</i>	7 of the 10 students attached some form of multimedia to this page, with most students using an average of two types of evidence. A wide range of types was used including attached and embedded images, YouTube and other website links. Text boxes were the most popular though. One student included at least seven types of evidence to her page. This is good to see. The hope is that this will increase with time until these pages are rich with multimedia content.
<i>What kinds of evidence are</i>	The evidence provided on this page is a lot less multimedia based, with only three students using more than words as evidence. One student



<i>provided on the Learning Outcomes page?</i>	created links to other pages in her portfolio.
<i>How are journals done?</i>	7 out of the 10 students are using the journal tool, with 4 students including attachments. Three students used text boxes to write their journal entries. The reason for not using the journal tool is unknown but could be due to some early confusion around the sharing of journals during the initial training session. There needs to be some decision making around whether or not students should be constrained to use the journal tool or not. Evidence from this report suggests students may enjoy the flexibility of having the choice.

**Analysis of overall results for this question:**

It is impressive to see the various ways students have found to present their work and to see uptake of the various tools for displaying multimedia. It is apparent that when students may struggle with certain tools, they have found ways around in the form of other tools. This is promising to see that students are flexible enough and able to problem solve and adapt. Or it may just be that they didn't understand the instructions entirely.

There is still room for improvement in the amount of students actively attaching multimedia to their pages – since this is one of the key indicators of success for this system.

Another key performance criteria is the use of the comments/feedback feature to establish communication between students/lecturers/mentors. The data suggests that this is an area that needs *serious consideration and training* in order for the tool to be a successful facilitator for online communication.

**Summary of findings for Question 4: How are students using the technology?**

The data points out that students are using the technology over and above what their initial training covered. They are exploring and discovering new tools and features as well as problem solving ways around difficult to use (or at least less preferred) tools. Multimedia is naturally being incorporated into most pages and is being done so in a variety of ways.

Some of the features that the researchers thought would provide the most advantages for the online system aren't being used as much or in the ways that were expected. This is a point of concern and special consideration will need to be given to the area of using the online tools to improve communication between students, lecturers and mentors. This is clearly supported by the results for Question Two.

While students reported needing a lot of time to learn the system, certain aspects that resemble other, more familiar, systems seem to have enabled students exploration of this one. This should be taken into consideration when preparing training for subsequent iterations of training for students and lecturers. This may even help mentors, although there is a need to control the perceived similarities between social networking sites and the ePortfolio system because of the privacy issues associated with the content the students are uploading.

## Research Question 5: How are lecturers using the supporting technology?

A further area of inquiry into the effectiveness of the online system is to look at the supporting technology utilised by the visiting lecturers. At the outset of the project, each visiting lecturer was provided with an Android tablet with 3G and WiFi connectivity as well as a camera for video and photo capture. Android tablets were chosen because of the ability to upload files to the ePortfolio system and because they included USB connectivity. These tablets were intended to be used in conjunction with a large screen television situated in a comfortable discussion space with the aim of enabling and assisting group discussion while interacting with the system.

The space was prepared but the large screen television failed to make an appearance. A smaller screen has been filling its place but was only utilised by one of the researchers to display the contents of their non-Android tablet.

Several training sessions were held to help the lecturers familiarise themselves with the tablets, and several other assessment development meetings were 'hijacked' by questions about how to work the tablets. Despite the time spent, there were many barriers to the successful use of these tablets. These included issues connecting to the wireless network, slow responses from the touch screen making typing and selecting web elements tricky, unintentional 3G data usage, issues with passwords changing and/or not being stored by the device as well as issues with charging the devices. Further to these issues, the lecturers found that using the tablets to work with the ePortfolio system was, at times, almost impossible. There were issues with being able to select different elements, not being able to edit pages and troubles with capturing and locating videos for uploading.

That being said, the lecturers generally expressed an interest in taking photos and videos for the students' portfolios and/or for viewing while on the visit, and they did attempt to make use of them in their visits. This brought about several issues concerning privacy and ownership of captured media, as well as difficulties in uploading.

The only formal data collected about the tablet usage came from one lecturer who was interviewed. She expressed concern over the general 'uselessness' and 'awkwardness' of the tablets for using with the system. Informal anecdotal evidence (i.e. spontaneous discussions with lecturers) seems to support this feeling. All but two of the lecturers involved in the project expressed concerns with the tablets.

Near the end of the pilot period, lecturers were being told to not bother trying to edit the system with the tablets but to use them purely for viewing.

Training in the next iteration of the project will frame these tablets as viewing devices, with the ability to record media 'at your own risk'. There are still great benefits to be had with the successful use of tablets so the recommendation is to look at purchasing different, more reliable, devices for the next iteration.

## Conclusions

Generally it seems that the greatest barrier to students thinking favourably about the ePortfolio system is their inexperience and lack of confidence in using it for assessment. This, combined with a perceived mismatch between their learning styles and the skills needed to work in the online environment, seems to have overshadowed the positive aspects the students experienced. While the training schedule may have been less than ideal, students were still able to explore and experiment with a range of the features available in the system. These features meant that most students were able to start incorporating multimedia into their ePortfolios.

While there are core features of the system that facilitate communication between the three parties involved in Practicum assessment (i.e. student, lecturer, mentor) it can be concluded that more training and experience is needed on behalf of all three parties in order for the system to start making significant changes to the relationships between them. Of particular importance are the relationships with the mentor – the experience of the pilot project is that mentors need more targeting (i.e. orientation and training) in order to be able to confidently engage with the system – indeed to even *want* to engage with the system. Despite the need for improved training, students and lecturers did notice a greater *ability* to communicate within the system. This potential now needs to be translated into actual communication in further iterations of the project.

In terms of authentic and relevant assessment, more research needs to be done using more objective measures, rather than participants' subjective opinions, in order to truly gauge any differences between the two systems. Subjective impressions indicate that the adapted assessment tasks are relevant to their practicum experiences. This is supported by the finding that students are using the ePortfolio system to draw upon various parts of their work to provide evidence for other parts and to facilitate reflection.

Despite issues regarding perceived barriers to utilising the system, the data suggests that students were able to explore, experiment and problem solve with different functions and tools within the system, showing that the system is manageable for most students. This is important because, while there will be significantly improved training next time, the system does rely on students practicing autonomous learning skills. This pilot has shown that at least some students are able to employ such skills of their own volition. The question needs to be asked "How will we ensure students lacking in these skills acquire them during the course of practicum instead of continually 'floundering'?"

Another aspect affecting the effectiveness of the online system is the supporting technology lecturers use to aid discussion and development. The data from this pilot indicates several technical difficulties with the type of technology used. Further iterations of the project will need to reconsider the purpose of the tablets and ensure the hardware is suitable to the tasks required. Possible other solutions could include digital cameras, phones and/or netbooks.

## Recommendations:

1. The strongest recommendation, in response to a majority of the data, is to provide more detailed training at the beginning of the year incorporating more time and instruction for students to practice, explore and experiment with the system in order for them to be familiar and confident with the system before they have to use it for practicum assessment.

This recommendation also flows onto the lecturers who need to be seen to be confident by the students. Areas that need more attention include but are not limited to:

- a. Use of the comments/feedback tool for students to communicate with their mentors/lecturers and for entering reflections on specific pieces of work.
- b. How to share pages with mentors and supporting mentors to make comments.
2. It is recommended that mentors are brought on board from an early stage. Informing them of the online requirements before they sign up is a start, followed by information on what the ePortfolio system is, briefly how it works and what they will be expected to do. As previous attempts to gather mentors to evening meetings have been poorly attended, some other form or schedule of training may need to be developed.
3. The use of tablets to facilitate the use of the online system still holds weight despite the difficulties lecturers in this project had. It is recommended that different tablets and/or technologies are investigated before any further purchases are made. It may well be that the best use of the tablets is in a viewing role only instead of an editing role.
4. Recommendations for others looking to utilise this particular ePortfolio system in their teaching programmes are to make sure...
  - a. All staff who will engage with students are confident in using the system
  - b. Specific ways and purposes of using the system are developed before giving it to students (and even staff) to learn. The Mahara system is very open and can be incredibly daunting without a specific aim or purpose in mind. For this reason curricula should be developed that stipulate specific tasks and outcomes, alongside recommended or required ways of accomplishing these. Without specific tasks, telling students to 'create your own ePortfolio' could very easily be too daunting.
  - c. Make sure the system is supported by technical staff who know how to upkeep and update the system. Mahara is still in its early years and is continually being developed with useful add-ins being developed periodically.
  - d. Think seriously about where you want students to store their multimedia files. If you can't provide the necessary space on the Mahara server you will have to involve and/or provide another means of storage that can be integrated with the system. You will then have to decide whether or not to provide training about these options as well.
  - e. Think about how much you really want to introduce a whole new system to students. While data suggests students likened some features to other popular sites, a lot of the system is unique to ePortfolios and other web authoring type sites (including Moodle from a teacher's perspective). If your needs are not very detailed you may be able to accomplish them with current systems. Mahara is good for when you have detailed needs including communication, storage and presentation using multiple views.
5. Further research should look at some more objective measures of how relevant and authentic the assessment procedures are to the practicum learning experience. It could also collect data on the differences between student groups – i.e. perceptions of those who were introduced to the paper-based version first and those who weren't, views of Māori on using the technology; as well as longitudinal data collected from the pilot cohort to measure changes in perceptions and experiences.