

EDUCATION AND HEALTH STANDING COMMITTEE

HEARING INTO DIGITAL TECHNOLOGY IN EDUCATION



**TRANSCRIPT OF EVIDENCE
TAKEN AT PERTH
WEDNESDAY, 12 JUNE 2019**

SESSION ONE

Members

**Ms J.M. Freeman (Chair)
Mr W.R. Marmion (Deputy Chair)
Ms J. Farrer
Mr R.S. Love
Ms S.E. Winton**

Hearing commenced at 9.52 am**Dr JEREMY PAGRAM****Senior Lecturer, Edith Cowan University, examined:**

The CHAIR: Thank you for coming in today. On behalf of the committee, I would like to thank you for agreeing to appear today to provide evidence in relation to digital technology in education. My name is Janine Freeman. I am the Chair of the Education and Health Standing Committee. I would like to introduce the other members of the committee. To my right is Mr Bill Marmion, who is the member for Nedlands and the deputy chair. To my left is Sabine Winton, the member for Wanneroo, and then to her left is Shane Love, who is the member for Moore. It is important that you understand that any deliberate misleading—of course I am sure that there will not be—of this committee may be regarded as a contempt of Parliament. Your evidence is protected by parliamentary privilege. However, this privilege does not apply anything you might say outside of today's proceedings. I would just also tell you that the two people here, you have probably spoken to, are our research officers, and this is Hansard.

Before we begin, do you have any questions about your attendance today?

Dr Pagram: No. I have attended one before.

The CHAIR: All right. Lovely. Would you like to make a brief opening statement or shall we just head into questions?

Dr Pagram: You can head into questions that you have, and I will do my best to answer.

The CHAIR: Okay. We will just give you some context. As the Education and Health Standing Committee, we do a number of reports to Parliament—and you know that already. One of the areas we are looking at is around digital education and the opportunities that that offers to our schools. So could you tell us what you know about how WA teachers are using the technology at this point in time?

Dr Pagram: I am not sure how much has changed in very recent times, but I was involved in a five-year project some years ago—the 100 Schools Project. I was one of the team evaluating that. So I have got a fair idea of the way schools are using technology then. Currently, from going out and visiting student teachers and my interactions with schools, I have got a reasonable idea of what has changed since that time. I obviously do a lot of research in remote areas over the years. I used to live in the Kimberley and have spent a lot of time in remote schools and had a look at what sort of technology and things have evolved over time.

The CHAIR: Can I just say that the member of the Kimberley, Josie Farrer, is also on this committee, and she is unfortunately not here today, so she does send her apologies. Are you okay? It is a public hearing.

Dr Pagram: Yes. No, I am fine.

The CHAIR: Do you want to take us through what you know and what you have seen, particularly the 100 Schools Project, and also what you have seen up in the remote regions—maybe with the 100 Schools in the first instance and then what you see now?

Dr Pagram: Okay. I will step back a little bit. I have been involved in technology in schools since the 1980s, so I have seen it sort of evolve over time, initially just with people who are enthusiasts doing things and not really a connection to education. There was a lot of a big push, particularly in the

1990s, with the multimedia revolution into very bespoke software that would allow rich learning environments and things like that—through into the early noughties, where we essentially had a situation where the Internet has sort of dumbbed down, if you like, some of the potential for rich learning. That stage has come back again with things like augmented reality and virtual reality and things like that. In schools, we are always in a tricky situation, and that tricky situation comes from, number one, the actual structure of our schools. The structure of our schools is very nineteenth century. I do not know how many of you have visited schools recently, but you will feel very much at home —

The CHAIR: We are members of Parliament.

Dr Pagram: When visiting schools, in many ways it feels like when you were at school. There is a teacher; there are students; there are classrooms. The structure of schools has not changed dramatically. When this comes into being a problem really is with the current new generations of software, and the new generations of software are not bespoke education. There is just not the money to make things so bespoke, so they tend to be software that could be leveraged off of by educators, but the educators need to make that connection, but that could be used. But unfortunately the way that we structure schools is that we compartmentalise things in subjects quite often. You would have realised when we have a lot of talk about STEM, but what tends to happen with STEM is that somebody does something cool in maths, science or whatever, but there is not the over sort of connections between the various areas, mainly because the specialists are specialists in their areas and they are not generalists. With primary schools, there is more potential for that kind of connection.

The CHAIR: Do you know of any examples where they are doing that—where they are going across, where they are actually getting out of that siloed aspects of —

Dr Pagram: In primary, yes. I had a PhD student a couple of years ago who did a study about teacher expertness and what makes a teacher who actually can see the potential and join the dots within the constraints of assessment. That is another problem. If you are a teacher, you are mad if you do not teach to the test really, because essentially that is how you are judged on your students' results and things. That has a limitation on what you can do, if you like.

The CHAIR: This PhD student did some studies on that?

Dr Pagram: She did a study, yes.

The CHAIR: Yes. If we wanted to see a demonstration of where this could work well, because we could highlight those and we could have the capacity to be able to showcase some areas where it is done well, are there any examples of that in Western Australia?

Dr Pagram: Yes, there would be in that thesis, which is available online. I can give those details.

The CHAIR: That would be great. That would be excellent.

Dr Pagram: Essentially, a lot of what we did in our recommendations from the 100 Schools Project—it was such a long, big project and covered the whole state—was that if you wanted teachers to use technology in a good way, you had to, (a), have the principle on board. They had to be very supportive of technology in the school. You also had to have some kind of facilitator or expert person who was within the school showcasing the way things could be done, and that person needed to be of suitable stature within the school. They could not be the sort of new grad coming in. They had to be the sort of person other teachers would respect and copy. Schools that had that kind of group of people—a supportive principal and teachers with good experience, and quite often they were not trained; they were just people who had a natural gift in connecting technology—then other teachers tend to follow along.

The CHAIR: That is that whole thing about leadership. Was there that sort of leadership when you were working with the 100 Schools Project? Is there that leadership in the education department structures beyond schools in terms of their administration in that area?

Dr Pagram: I must be careful what I say. In actual fact, yes, there is that capacity within the education department, definitely, but because of the way the system works, people move around so much. We did not do training but we supported the people who had trained and interviewed the facilitators in the schools in that initial 100 Schools Project, and of course you would go back over five years where people changed every year, particularly in more remote areas. That staff move-around means that we lose some expertise, particularly in schools that are not in the metro area.

The CHAIR: Did you want to talk to us about the work you have done in remote schools, particularly being around having the capacity to use the digital technology?

Dr Pagram: Computers can be used really for three things. One is as a tool, like we are using today, one is to actually enrich education in terms of doing something that you cannot really do, and one is actually bridging the gaps and things like that. In remote schools, of course, technology really does lend itself through the tyranny of distance to actually get into places and to do things in a small school that would not be possible otherwise.

The CHAIR: So bridging the gap.

Dr Pagram: Bridging the gap. One of the problems we have had over the years, and I have been involved in—when does it go back to; certainly since the mid-1990s I have been visiting schools—it went from no connectedness, or if they are lucky, some dial-up, to Telstra’s initial deployment, “Yes, we’ve done the country, but you can’t all get online at once.” That was an easy mistake to make—putting 3G towers at those days into communities, but of course they do not work if everybody goes online at once, which of course is what happens in a school. Now things are getting much better in terms of the access to the internet, but still I get complaints with a project that a colleague and I have done over a few years, supported by AISWA. We call it culture pad. We essentially developed a piece of software. Rather than connecting with the school principals and things, we worked with—I do not know what their current title is—but the Aboriginal education workers in the schools, who are part of the community, about really preserving the local languages and teaching the kids the local languages, incidentally using English to teach. It is just a very simple tool. It lives, but we no longer have funding. I am presenting a keynote in Singapore at a conference, so we are trying to keep it alive, because we have a school in Perth that has taken it on now.

The CHAIR: Yes.

Dr Pagram: The difficulty and why we originally needed funding is just getting access to the sites. It is horrendously expensive, as of course you are aware.

The CHAIR: In which school are you doing that?

Dr Pagram: I would have to check with my colleague which one that one is. He is in Spain at the moment, but I can find that out very quickly.

The CHAIR: Yes, that would be good.

Dr Pagram: Yes, there is a teacher there who showed interest. They had seen the demonstration of what we had done and had actually contacted him. He sort of continued on and further developed the application. The good thing about it is although it works on things like iPads, it does not require the internet. ¶

The CHAIR: Okay.

Dr Pagram: We particularly wanted something that does not require any connection to the outside world. Initially, we actually built that in, because we thought it would be a way of preserving Indigenous languages. The content that is developed—it is just a shell—belongs in fact to the communities and does not belong to us. So we created like a tool that allowed them to do what they wanted.

Mr R.S. LOVE: In terms of the connectivity of the schools being an issue, or communities, are there any programs or thoughts about using systems which might collect the data that the student has worked on and then you export that at a less inconvenient time, so that the children are working locally and then connected, not continually but fairly frequently, to the outside world in a more controlled way?

Dr Pagram: We have certainly used that in our research projects. It was a different research project about digital assessment. We did a lot of that because, when we first started it, you could never guarantee that you could use the school's internet. There was no funding. You would go in and find that you could not do that. We had something that would stream when it could, and I believe that is probably actually being used.

Mr R.S. LOVE: We saw that you were involved in something called the bush schools project.

Dr Pagram: Yes.

Mr R.S. LOVE: Is that a similar thing to the 100 Schools project?

Dr Pagram: No, that was more of an evaluation for AISWA and Catholic Ed. They had applied for some moneys to upgrade their technology in schools. We first examined all the documentation and things that went with it and what they had set out to do, and then went out and did some school visits and saw how it had been implemented and wrote them a report on that. But it was about technology, rather than teaching with technology. So we go out and count the boxes, if you like, rather than sitting in classes.

The CHAIR: So when you say it is about technology, is it about the teachers using technology?

Dr Pagram: Yes. I think we have got to a stage now where there is technology in schools. That battle has been fought and won. Probably every child is carrying something in their pocket that has more computing power than sent man to the moon, so there is a lot of bring-your-own technology going to schools as well. Where we are heading now is how to get technology used appropriately. Personally, I have this sort of rule that I follow, which is: what is the underlying educational value of any technology? That is something I learnt from my late colleague who I worked with for 30 years, Dr Paul Newhouse, who would probably be sitting here instead of me had he still been alive. He was a great one for not using the latest technology, even though he was the most knowledgeable person about computer technology in schools in Australia. He was involved in writing Australian curricula and all sorts of things. That was because what he wanted was: what is the educational benefit? Perhaps I can give an example there. Things float around Australia as a bit of a buzz word—at the moment, it is coding. I will say some heresies in that coding has very limited value in schools. It has one underlying educational value, which is that it teaches problem-solving, but it only teaches problem-solving if you are teaching the coding in an algorithmic approach—you are teaching how to solve algorithms. If you teach is syntactic, like a language, you are teaching kids something that will be out of date before they have got home probably. It is probably out of date when they are learning it, because it is not what is used. So there is a limited benefit to kids learning coding in that way. If we take that underlying thing of problem-solving, where does it best happen in schools? Probably, actually, in anything that is not really tightly assessed. Design technology, for example, is a pet love of mine. You find, particularly in schools that are rich in technology, that there will be all

sorts of technologies used as part of a project, and it will be connecting in that STEM area. It will be joining the dots. So you have got mathematics happening when calculations are done, you have science because you are using plasma cutters and all sorts of things, and you are using computer technology because that is what joins the dots.

The CHAIR: What is a plasma cutter?

Dr Pagram: A plasma cutter is—you would have seen them on television cutting materials for car bodies and things like that. They are a computer-controlled cutting machine for metal. A lot of schools have these now, on a small scale—the size of half this table. Yes, they are controlled by a little laptop. The nice thing about them is that they can do things that are not easy to do otherwise, like cutting circles and things like that.

Mr W.R. MARMION: You just highlighted an issue. You are saying that you can use the technology, and some schools are doing it, but is there a disconnect between the curriculum in terms of old-style, siloed, “these are the subjects that you have to learn” approach and now having this technology that could overlap and make all those subjects a lot different, but the people who are designing the curriculum are not up to speed on how that could possibly be brought in? Then you have the problem of having all the different types of schools—different socio-economic groups, different bandwidths with the technology they are using. This is a massive problem that I see, and you are probably the best person that could answer those millions of questions.

[10.10 am]

Dr Pagram: Okay. The Australian curriculum, which is what we sort of adaptively use in Western Australia—everyone else has got their version of it—is actually a brilliant document. Like most brilliant documents, it is open to interpretation, and so it is the interpretation of that that schools are meant to do to create their local school programs. However, going back to a point I made earlier, assessment is what really drives what they select from that curriculum, so it is assessment that really latches on to what parts of the curriculum get taught, and particularly the ease of assessment. So in the past we have had situations where art is taught with a written exam, or physics, where it could be practical, or engineering, with a written exam, design—it goes on—because that is easy to do. Now, that is okay, if that is part of the assessment that you have a written exam. The trouble is that the tail wags the dog. The teachers have this high-stakes assessment. The high-stakes assessment is something that the teachers will latch onto, because they know that even if it is not supposed to be the case, they will be judged by the students’ performance in that.

The way around that for subjects that do have a practical bent or some other part—it is not just purely a theoretical thing—is to use something like digital assessment. If we go into another project, we did digital assessment for high-stakes assessment processes with our partner. We had an ARC grant. Our partner was the curriculum council. Essentially, we looked at the practicality of digital assessment in arts and engineering—a whole swag of subjects. And it is very practical. We are not talking about the computer marking anything. It you capture a digital representation of a student’s project or you capture the process—so the student does an exam, say, in engineering and you get them to talk about their design from what they have done with the brief through to their prototype—that exam is then digitised and it can be marked by a multiple number of people, not just the one person or whatever, and it is preserved. That allows you to do something in an examination situation that is not just “where’s my pen?” That is another thing, of course—we tend to handwrite examinations when, for most of us, apart from people around this committee, only handwrite when we do a birthday card or something these days. Our kids have to learn to write really well, because examinations have not moved on. We took that project further. Indeed, we were working on one which we cancelled, because changes to Australian laws made some of the

digital assessment quite difficult, particularly those around—I am trying to think of the name of it—copyright. We were looking at doing music. I actually have a student doing a digital dance assessment, but it probably would not be practical now, even though she is finishing off her PhD, just because every time a piece of music is played, somebody has to go “kerching”. Every time an examiner sees it, there is kerching. The practicality of actually funding that kind of thing is a bit of a pain. Also, the paranoia of identity that has come into our society more, where you have a kid talking about their project and then multiple examiners, there is a fear that we need to de-identify everybody. It just adds another layer of technical level on which —

The CHAIR: Yes, it does seem like it would be really resource intensive as well, if you went that way. So what you are saying is that part of the difficulty around using technology is that people are driven by assessment. Part of the difficulty in being driven by assessment is that you could do that and use technology, so that kids could get a better understanding of technological use and innovation in terms of technology. But it does seem that it would be quite resource intensive for a teacher.

Dr Pagram: We did three stages. One was where we came in and did it with a suite of equipment and, yes, we went in mob-handed to actually capture the representations. For example, we went down to a sort of warehouse in Fremantle and did all the art assessments that had come in, because they all get shipped to one little shed. The students probably think they are displayed on the wall, but they are assessed in a small environment. We captured various representations of artwork and things. The next stage was to see whether or not schools had the capability in terms of technology. Yes, they all have digital cameras. All you need is a digital camera, a tripod, good internet—a system for actually capturing the representations.

The CHAIR: But you would only be doing that for senior students, though, wouldn't you?

Dr Pagram: Yes, that is right. The trouble is that our system works on a little bit of a hand-me-down in that we have these sort of gatekeeper examinations and they sort of wash over the whole system, because that is where people are heading. But the other area where it can be used is that once you have captured representations of students' work in a form that can be marked, turned around and looked at and all that kind of stuff, is that it can be used for moderation. So teachers can use it. The teacher in that remote school who only has their own students' work to look at suddenly can actually be moderating with somebody on the other end of the country or multiple —

The CHAIR: To see what their standards of work is?

Dr Pagram: Yes, because a lot of the assessments tend to also be in-class assessments, where the judgement is basically the teacher's, and the teacher's judgement based on their —

The CHAIR: So what you are saying is that in an assessment or in a tool like that, where they are doing in-class consideration of the work, it gives them a capacity for collaboration and partnerships with people outside, so that they feel that they have a better capacity to look at the work and to contribute to building that child's work?

Dr Pagram: It does. Also there is another stage, which you can take on. I do not know how many of you heard of Racsh analysis—probably not. How about PeerWise assessment? Essentially, when we have examinations at a high-stakes level, for example, it is about ranking students from best to worst. Unfortunately, that is what happens. In fact, some sort of mathematical gubbins goes on to give you a number. Whatever your number is, that is your rank. That rank can be done mathematically using something called Racsh analysis, which was developed at UWA, actually. It is a mathematical formula that allows large groups of people to be put into order. If you apply that to a digital assessment environment, what you can have is a system—and we have trialled this and it

works beautifully. Interestingly it does not correlate well with analytical markers, who actually do not correlate well with each other —

The CHAIR: So an analytical marker might be someone like —

Dr Pagram: It is just a more traditional marker, yes.

The CHAIR: So is NAPLAN an analytical marker type of thing?

Dr Pagram: I think it is, yes.

The CHAIR: Anyway, let us not confuse things.

Dr Pagram: Yes, let us not get into that. Essentially, it allows you to say, “Is this piece of work better than this piece?” You keep being asked this, looking at the evidence. Eventually, with you plus a number of other markers—and it is very quick to do, because you can easily see which one is better—the students’ work goes into order without actually having one mark or without physically coming up with some marks.

Mr W.R. MARMION: What about if they have done a group assessment? Can it actually work out, “Oh, this person was in that group and that one, so that means we can actually then now juggle it”, or, “We know that that person must have been a higher contributor”, without getting too complicated?

Dr Pagram: I have not done that in Australia. I have some students from Vietnam who are doing that in English-language testing and things like that, where there is a group conversing. Because the assessment has been captured in a digital form, it allows you to see who is doing what.

Mr W.R. MARMION: People work in groups now, don’t they?

Dr Pagram: They do. Well, we hope they do, because one of the skills we are really pushing is that collaboration. Technology, though, you have to be very careful when you are choosing technologies, because a lot of technologies are very much a solo thing. Traditionally, it is because it is sold in that way; it is individual licences and things like that.

The CHAIR: So what is the benefit for the student about doing that sort of assessment basis?

Dr Pagram: Fairness, because multiple people have judged your work. Say we were all teachers. We mark each other’s students’ work, through, “Yes, that one is better than that one.” Essentially, your teacher might be biased against you or might love you. You get that. And that is where analytical marking comes down a little bit, because we have a marking rubric and the interpretation of that rubric is often different to different people.

The CHAIR: So how does that help a child learn?

Dr Pagram: It does not. Well, where it helps a child to learn is that it actually will affect the teacher’s teaching of the subject to make it a richer environment. So they are not just trying to teach facts and figures that can be marked in a test, but they might be teaching a process that can be observed in another digital way. The student benefits in the way they learn because the way they learn may be changed by such a thing.

[10.20 am]

Mr W.R. MARMION: The aim is to get better outcomes for the kids. So you are saying this will help get better outcomes for a broader range of kids?

Dr Pagram: Yes, that kind of thing. Certainly, I believe the Curriculum Council is continuing with looking at that, because it is also cheaper in many cases as well because, essentially, in some areas

of doing those kinds of assessments, work or students have to be brought into the city. There is a slight —

The CHAIR: So again, this is for higher, so ATAR, kids?

Dr Pagram: That is right.

The CHAIR: It is not what you would do with kids at primary school who have all drawn a picture for Harmony Week or something. Sorry, keep going.

Dr Pagram: Primary has the best potential probably for cross-curricular and joining the dots in terms of STEM and all those things. That is where the expertness of the teacher really comes in. Sometimes programs come up which really focus things, like when you go to remote schools there will be some language: “What is it this week?” There is always a language one, which dominates the day. Quite often, kids, because they go through it and then the next year they get a different teacher go through the same things, it becomes a repetition but very dominating what happens in the classroom. There is the potential, and I am sure it is happening. The example I was going to give you for expertness is definitely one in a private school with primary classes where the teacher has the ability to have control over the curriculum.

Ms S.E. WINTON: Yes. I just wanted to pick up on that. I do not know whether you are able to give us some information on this. In regard to teacher training in terms of pre-service and also teacher professional development in schools, I do not think there is any question that we believe that technologies have a great ability to enhance learning. I want to sort of take a step back. Are we creating the teachers in providing the skills for teachers to actually go into our schools?

Dr Pagram: There is a study going on at the moment. One of my international students—a girl from China—is looking at teachers’ and students’ use of ICT at Curtin, ECU and OUA as well, in terms of what technologies they use and those kinds of things. But in reality, from my own observation—that is purely observational, not evidence based—certainly in the university I work at, it tends to be in many ways still compartmentalised a bit like the schools, so I teach technology and you teach whatever. Essentially, it depends on that lecturer’s or those lecturers’ use of technologies. They will say they use technologies really well because they have got their learning management system and they use PowerPoint or whatever, but they probably have not got time to find out what the cutting-edge things are within their area.

Ms S.E. WINTON: Yes. I guess I am more interested in: are our pre-service institutions thinking about what training is and incorporating the technologies in all of the pre-service stuff, so that we are actually sending out teachers that can join the dots, because it has got to start at that level?

Dr Pagram: I have been at ECU for 25 years, so I have seen the wheel turn and come back again. We used to have a lot of purely technology courses because people did not have those skills. Now, since 2008, a colleague and I—and this is the one that the student has built upon—started to actually wonder if the technologies being used in our training things are the ones in schools and also, quite importantly: are the lecturers using the same technologies as the students? The outcomes of that were quite interesting, but I will answer your question a little bit first. Initially at ECU—I think that Curtin did as well, because I worked there previously—we took away the overtly computerised courses, so that we assumed it was all happening within the unit, that wherever there is, say, maths, there was a connection with technology being used. We have now brought back in units to do with technology because we did not believe in all cases that was happening. That unit was tacked on, initially, at the end of their course, but now it is being brought to the beginning of the course, because we are realising the importance. So it is recognised, but it is probably a case of “could do better”.

Universities are a little bit like schools, but more so in that technology is very controlled, so it is very hard for a lecturer to do something diverse and interesting. If I need to have a piece of software to share with my students, I need to tell them six months ahead; I cannot say to put it in tomorrow and use it. So the way to overcome that is the way we have pushed. We did another study to try to push ECU down the “bring your own digital device” path. Everybody has got their own computers and things. The difficulty is probably less of an issue of people not having any technology; everybody has some, usually. But the difficulty is that technology varies and making sure that it is of a minimum standard and those kinds of things, which a lot of the US universities have done. So, you must have some equipment like this and you do not need this very controlled environment. Indeed, our environment, because of phishing, phishing and things like that, is getting more and more controlled, and very tightly controlled, as it is in everything else.

Ms S.E. WINTON: What are your thoughts in terms of once teachers are in the system?

Dr Pagram: What we found from our study—I will go back to that one—is that essentially teachers are very conservative people. The people who are attracted to teaching are very, very conservative. They are the sort of middle-of-the-road people who are not playing with the latest technologies. They tend to be the ones who buy something once—second-generation or whatever—so you find that type of person. We are talking about student teachers; we are looking at the ones who are coming through and they are 19 and 20-year-olds who you would think were using the latest toys and want them, but they do not actually. The people who are attracted to teaching—I hate to say it—sometimes like the idea of the classroom, shut the door, “Where is my chalk?” in a way. They like the fact it has not changed a great deal. It is a very conservative model. So they do tend to model how they were taught, and that goes back to when they were taught at school as well. So when you go and visit student teachers in schools, it is lovely to be a fly on the wall because you sometimes think, “Well, hang on, I went to school 50 years ago. Where have the changes happened? Okay, the teacher is standing at the front with a whiteboard, but what else is new?” That is because we have this perpetuation quite often of “this is the way things are done”. We looked particularly at those teachers’ use of technology in remote areas as well. It was quite interesting. They will be using shopping from Amazon and eBay and they will be on Facebook or something, but they do not see a connection often between what they do in the classroom and that. It is making that connection. Teachers are very sort of reactionary, so they react to all the outside inputs that come in, and there are lots of them now. They are under pressure from all angles, so they probably would say, “Yes, I would love to do that, but I don’t have time.”

Ms S.E. WINTON: So are you suggesting it is more a question of the teachers as opposed to the system in terms of providing professional —

Dr Pagram: The people we attract to teaching are a type of person, I believe, yes.

Ms S.E. WINTON: Are you suggesting there are enough professional learning opportunities out there within the system, and they are just not seeing that that is something that they require?

Dr Pagram: I think that is the case. You do not know what you do not know is the case. I was a long-term member of the Educational Computing Association of Western Australia, putting on PDs and things external to the department, and you would get the same people coming along every time. So those who want more want more, and those who would rather not know will keep their head in the sand.

Ms S.E. WINTON: Obviously, that is not an acceptable thing to keep doing, so what is your solution to that, to turning out teachers living in 50 years ago? We cannot have that, can we?

Dr Pagram: The solution is that you need to have within schools somebody who is—like in every school, there needs to be, first, a principal who asks, “Why are you doing it that way?” and who knows what their teachers are doing and gives the little prod in the right direction, “Well, you obviously need some help, some PD or whatever”, and also having somebody who is showing how it is done, and that person needs to be supported with a bit of time. It is essentially what we had in the 100 Schools. The only problem with the 100 Schools was that our staffing model shuffles people around, so there is a wonderful person in school and then the next year there is no wonderful person in school. It is a tricky situation, particularly in remoter areas. I go back to them because they are a bit of a passion of mine, but they get the worst of everything. They get the new grad who has limited experience and is just hanging on by their fingernails to two parts of their lives. One is, “I am now suddenly in a remote area and I have never been in this sort of situation before” and that is very isolating—very isolating. It is easy for us because we have got our ticket home, but when you have got a one-way ticket, you would find it quite lonely, having been in a lot of places.

[10.30 am]

The CHAIR: Shane, did you want to ask a question?

Mr R.S. LOVE: It has also been covered a little bit but I will just go into it a little bit more.

The CHAIR: Okay, and we need to move on, yes.

Mr R.S. LOVE: Earlier on you said that the school system was quite nineteenth century in its approach, and Sabine has highlighted that teachers are part of that problem. But I am just wondering, are there any examples nationally or internationally where a jurisdiction, not an isolated school, but where a system has broken out of that model?

Dr Pagram: The only places you might find it are somewhere like a China or a Singapore. Unfortunately, they are even more exam mad than anyone else. Because you need that kind of ability to break and rearrange the system, and politically that is a very, very tall order because parents do not like change. Our lovely outcomes-based state system we had in Western Australia, teachers hated it because they had to actually think. Parents hated it because, “Is my kid better than that kid?”; they wanted that kind of old-fashioned idea.

The CHAIR: So we were told Korea does the technology quite well. South Korea obviously.

Dr Pagram: I have not visited schools there, no. But the Korean students I have had—yes, what we want from schools or what I want from schools and what I want from teachers, I want a teacher that—and I do not mind if the teacher cannot spell cat or cannot add up to 10, but as long as the children leave that classroom with a passion for learning and a love of the subject or whatever is being taught, they have done a good job because the student wants to learn more. Maybe one of the troubles we have is essentially we can dry education out if we push the curriculum too hard and make it too tight. One of the advantages of the system that we used to have which was outcomes, was that it really was down to the teacher what happened. Unfortunately, they often did not like that freedom. They wanted to know day one, week one, “What do I do?” I think if we can attract teachers with passion, it would be the key.

Mr R.S. LOVE: If we can just talk about, instead of teachers in schools, the students for a minute. Does the use of technology have the potential to perhaps bring more students into a position where they are achieving a good level of understanding of the world of education or does it actually leave the potential for there to be a widening gap between those who take up those opportunities and have the understanding and those kids who would rather just be out playing footy?

Dr Pagram: Like many things in schools, if you go to a very expensive private school, there is so much technology you almost fall over it getting in the door. They are very technology rich. As long as those

underlying principles are followed of what is the educational value of the technology, then it does not matter that somebody has got the latest whizbang and somebody has got something that is not quite as good, because the key educational advantage might be very much the same. So we need to look at the technology that is being used in schools and say, "Okay, what is the outcome? Yes, it is cool. There's students walking around with goggles. What is the educational underlying thing, the transferable skill, they take away?" As long as we make sure those are equivalent across the system, there is a good chance that it will not be a big discrimination. For example, in an area that I am passionate about, which is design and technology, as well, it does not matter how old some of your equipment is as long as you have got a couple of 3-D printers as well as those 1950s lasers and things. It does not matter. You can still have the same learning experiences. Yes, I guess we cut the coat to the cloth. But as long as the underpinning thing is that you still do come out with a coat, it is not a problem.

Mr W.R. MARMION: Provided you have got the teacher who can do it.

Dr Pagram: That is right.

The CHAIR: I am sorry about this. We have people from education department waiting outside as well. Thank you so much. That was really informative and interesting. We really do appreciate it and appreciate your passion for education. It has been really engaging, so we have really enjoyed it. Thank you very much.

Dr Pagram: Thank you.

Hearing concluded at 10.35 am
