The times they are a-changing: A New Model for Senior Secondary Assessment

by Phillipa Whiteford

Abstract

When considering implementing educational change there are three important questions that must be addressed, regardless of what the proposed change may be. First, we must reflect on why change is needed and have a clear understanding of the issue. Then we must investigate the most appropriate innovation for addressing the identified problem and finally we must consider the actual process of change itself. The purpose of this paper is to examine each of these questions through the lens of system-wide assessment reform; exploring how a more future-focused rendition of an ePortfolio can provide an innovative answer to the challenges facing current assessment practice in senior secondary compulsory education.

Keywords: ePortfolio, assessment, educational change, change management

Introduction

Effective learning and effective assessment of that learning are much-debated topics within education circles, both formally in research literature and policy documents, and informally across work tables in school staffrooms from primary level right through to tertiary. Mark Osborne (2013), drawing on research into learning over the past twenty years, states that quality learning is personalized, socially constructed, differentiated, initiated by students themselves and connected to authentic contexts. Should it not follow that quality assessment embraces the same principles? If so, then a complete rethinking of assessment is required and indeed it seems that this has already begun, as “there is general agreement in the assessment field that times are changing.” (Whitelock, 2010, p. 334).

Why a change in assessment practices is necessary

Any major change in education should be predicated on a thorough investigation of why such change is necessary; otherwise, given the high stakes involved, it is likely to be met with considerable resistance. Education is an area in which creativity and innovation are to be encouraged, but it is also one which should not be subjected to whimsical change. To consider why a change in assessment practices is required, we ought first to reflect on what it is we are trying to achieve with assessment. It is true that assessment has a variety of purposes but central to all should be the learner – namely, what benefit or use does this assessment hold for the students in our classrooms. Fullan (2011) envisions the goal of “raising the bar (for all students) and closing the gap (for lower performing groups) relative to higher order skills and competencies required to be successful world citizens” (p. 3). A goal such as this requires consideration of the distinction drawn between formative and summative assessment or, to put it another way, assessment for learning and assessment of learning. Traditionally, the two have been seen as different entities, summative assessment being “a retrospective assessment of what students were taught” while in fact “what we really care about is whether students are in a position to continue learning and growing” (Schwartz & Arena, 2009, p. 7). Similarly, Flockton (2012) argues that “too often learning is perceived of [sic] as a linear process with assessment gauging that linearity in terms of progressions” (p. 139), thus ignoring the continuous cycle of growth and development. Therefore, a type of integrative assessment which combines both assessment for and of learning, one which allows for ongoing continuous feedback, guidance and reflection while at the same time building towards a final summative learning assessment is necessary to fully meet a learner’s needs.
Flockton (2012), outlining the DANZ 2 vision for future assessment in New Zealand, proposes “an approach…where students are centrally engaged in both the action and processes of assessment” (p. 130). Such a view, whereby students are intimately involved in how they are assessed, is likely to lead to higher engagement in assessment activities, helps to support the development of lifelong learners and works to break down the common student perception that assessment is something done to them over which they have little control. Giving students a more important role in assessment would not be such a radical move: we are already in an era where learners are taking much greater control over their learning, with personalized learning pathways becoming commonplace and technology allowing greater choice in what is studied, when, how and with whom. Schwartz and Arena (2009) argue that this notion of choice is critical if education is to be successful in preparing students “to act independently in the world – which is to say, make good choices. It follows that an ideal assessment would measure how well we are preparing students to do so” (p. 1).

The demands of living in the knowledge age, where change is constant and unpredictable and the ability to accomplish difficult tasks is more likely to depend on one’s ability to navigate the vast array of informational resources than it is to be based on static knowledge” (Schwartz & Arena, 2009, p. 5), is resulting in a shift in education. It is no longer enough just to know something; what is more important is to be able to demonstrate what you can do with that knowledge, and so a range of skills, including analysis, synthesis, critical thought, and creativity come to the fore. Similarly, what even constitutes ‘knowledge’ within an educational sense is evolving, with competencies such as knowing oneself and the ability to self-reflect gaining prominence. Together with the ability to collaborate with those around us, both locally and globally. Bartlett-Bragg (2008) argues that this calls for a rethinking of the relationship between assessment and learning, with a move to “self-assessment, peer feedback, portfolios, and group work that encourage learning for the future” (p. 4020).

However, despite all this, the nature and style of assessment has remained fairly static, with what change that does occur rarely challenging the fundamental division between assessment for and assessment of learning, and summative assessment still largely privileged. It seems clear that a future-oriented change in assessment practices is needed; and in what is essentially a very conservative, slow-moving system that change must be substantial, as was the case in 2002 when New Zealand introduced the National Certificate of Educational Achievement (NCEA). It will not be enough just to pay lip service to change, making small cosmetic modifications. What is required is a one-time, properly managed and sufficiently future-focused change. Bolstad and Gilbert (2008) argue “we need to find ways to think outside the square of the old ideas if we are to reconfigure our schools for 21st century needs” (p. 92). Given that we are now already more than a decade into the 21st century, their argument is even more pressing.

Elliott (2007), exploring the idea that assessment is often seen as a barrier to change, writes “critics claim high stakes assessment dictates what is taught and stifles innovation. So, if education is to change that change has to be led by the assessment system” (p. 7). If this is the case, an assessment system must be developed that:

• Has students at the core with a more involved role
• Is non-linear, reflecting the process of growth and development
• Develops lifelong learners who have the capacity and desire to continue learning once the training wheels of school are removed
• Moves beyond merely assessing content knowledge and instead looks also at skills and competencies
• Is authentic and relevant to learners and to today’s economy

What technology can offer

What, then, would be the most effective way to achieve these aims? For at least the past five years, technology has been heralded as a key driver of change in learning and teaching, and it has the potential to do the same with assessment practices. A 2012 JISC report into digital age assessment asserts “there is considerable potential for multimedia technologies to make feedback richer and more personal and for a wider range of learner skills and attributes” while “online tools can support peer and self-assessment in any location and at times to suit learners” (p. 9). Furthermore, modernized assessment practices, particularly those that embrace the nature of web 2.0, offer a way “to narrow the gap between the everyday lives of students and the assessment practices that we impose on them (Elliott, 2007, p. 1). However, despite this recognized potential, Tucker (2009) writes that while “schools are gradually…integrating a range of technologies both in and outside of the classroom for instructional use” (p. 1), assessment practices are neglecting to do the same.

2 Directions for Assessment in New Zealand
Embracing technology will allow assessment practice to develop into a more meaningful, authentic assessment of and for learning; a practice which is personalized to individual learners and their needs and which prepares them for living in a knowledge economy. Elliott (2007) argues that future-focused assessment should be authentic, personalized, negotiated, problem-oriented, socially constructed and collaboratively produced (pp. 182-3) and Whitelock (2010) adds one further characteristic to this, calling for a focus on peer and teacher feedback which is “generated from the assessment process [and] should take the students forward to the next stages of their learning journeys” (p. 334). An assessment system embracing these principles would go a long way to achieving the vision of strong student voice and participation outlined by Flockton (2012), while at the same time helping to foster important skills needed to be successful lifelong learners in the 21st century. However, this comes with the caveat that technology must be used in a way that supports pedagogy, rather than pedagogy chasing technology: the movement must be “pedagogically rather than technologically driven [in order to]…support a new vision of pedagogy, rather than pedagogy chasing technology: the movement must be “pedagogically rather than technologically driven [in order to]…support a new vision of learning” (UNESCO, 2012, p. 1).

Currently, many schools and tertiary institutions make use of ePortfolios as learning and teaching tools, and extensive research exists documenting many aspects of this practice. However, what is proposed here for senior secondary level schooling, and for the purposes of achieving the assessment aims outlined above, is a more future-focused rendition of the ePortfolio - a personal Digital Learning Arena (DLA) which individual students own and control. This supports a deliberate move away from ePortfolios that “focus on the administrator’s need for assessment data rather than the individual’s deep learning” (Hartnell-Young, 2006, p. 127) and instead looks toward Flockton’s vision for student-driven assessment while acknowledging that “learners…value the chance to become partners in assessment design” JISC (p. 22).

It is important to understand how a DLA differs from the commonly used ePortfolio. A recurring criticism of ePortfolios is that they are “effectively little more than online storage for students’ work” (Elliott, 2007, p. 2), largely content-based and often merely an online version of what is already being done on paper, thus not adding any value to traditional paper-based assessments. In addition, Bartlett-Bragg (2008) reminds us that “reframing assessment is not solely about integrating software into the process of assessment, it is also about reviewing current assessment philosophies and determining how assessment can foster learning” (p. 4024). Therefore, while Hartnell-Young (2006) quite rightly identifies that the “absolute essentials of ePortfolios are purpose, reflection and communication” (p. 126), it is important that this is expanded to include social interaction and “an environment of…collaboration” (Barrett, 2005, p. 14), thus embracing the principles of social constructivism and ensuring that the new system holds true to its aim of being an authentic, relevant means of assessment in the 21st century.

Features of a Digital Learning Arena

In expanding the idea of an ePortfolio, web 2.0 technologies have much to offer in that they “facilitate collaboration and offer the potential to…implement a social constructivist view” (Whitelock, 2011, p. 320). By weaving together traditional portfolio elements combined with web 2.0 tools and social software, learners are able to create a personalized, constantly evolving record of their learning - “digital spaces where they can interact, explore, and construct an individualized approach” (Bartlett-Bragg, 2008, p. 4020). This need not be tied to any particular ePortfolio platform, which can often be expensive for schools and limiting in terms of an individual’s freedom to personalize and create his/her own identity. Instead, learners could themselves identify an online tool they wish to use. Such a “creators-not-consumers approach” allows “space for thinking and learning” (Hartnell-Young, 2006, p. 128), whereas overly regimented or inflexible systems strip learners of the chance to be creative and consequently limit “the learning potential of the ePortfolio development process” (ibid, p. 128). The imaginary DLAs included here showcase one student who chose to make use of Google Sites and another who chose to make use of the Weebly website creator.

Eventually, depending on future curriculum developments, this DLA could easily become completely cross-curricular; however, what seems likely is that, at least as an interim measure, students would each have one DLA with discrete subject specific tabs and internal hyperlinks. An initial introductory page, making use of photographs or avatars, could be used for the student to introduce themselves as a learner and comment on their learning journey [Figures 1(a) & 1(b)]. Relevant links, such as to the student’s learning blog, could be included, while links specific to individual subjects would be found on subject specific pages along with content material, artifacts and reflections.

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5 This author’s terminology.
The DLA would be interactive and fluid, with multiple ongoing opportunities for teacher and peer feedback, as well as providing the opportunity for community engagement at local, regional and international levels. Peer feedback is an important element of the DLA and must be carefully thought out, for “any feedback that is not fully understood or cannot be acted upon…is likely to be ignored, [and] it will not facilitate learner improvement or confidence” (Whitelock, 2011, p. 336). It follows, then, that learners must be explicitly taught how to give feedback.
The proposed DLA would also assess collaborative and individual work and would focus not only on content and skills, but also on competencies and fluencies. Collaborative editing tools and cloud storage of shared documents offer much scope for creative endeavour. It must of course be remembered that not everything that forms part of the DLA need be done on computer; the use of regular paper and pen should not be forgotten. Work which students wish to include on their DLA can easily be photographed using smart phones or iPads and uploaded as an image upon which students could then reflect or make further use of [Figures 3 & 4].
Ideally, a DLA such as this would ultimately collapse the distinction between formative and summative assessment. However, this could be an even larger barrier to overcome and it would be possible to incorporate summative assessment within the DLA. This could be done by having a discrete portfolio tab that showcases the student’s selected work relevant to summative assessment criteria. Building on the ideas offered by Niguidula (2006) and modifying the approach adopted by Ponaganset High School (Rhode Island), the following is suggested as a possible method: with guidance and support from teachers, students select appropriate evidence to showcase in their summative portfolio. They then complete a written reflection on each piece of evidence making connections between their work and the assessment criteria, justifying how it demonstrates achievement or mastery of the set criteria.

Figure 3 - Snapshot of a student’s English homepage, showing related links and weekly reflection
criteria in each particular area. Within this reflection students would evaluate the quality of their learning, identifying how the artifact demonstrates personal growth and development, and where they see room for improvement. Face to face interviews between individual students and a team of teachers then take place in which students guide the teachers through the DLA and answers questions relating to their learning journey, as evidenced through the DLA. A dual approach such as this, where the DLA has a summative portfolio contained with it, achieves the goal of integrating formative and summative assessment, and allows learners multiple opportunities to act on feedback, collaborate, reflect and ultimately showcase their achievements.

**How to effect such a change**

How would an education system go about implementing such a major change in assessment? There is no easy answer to this question as the process of system wide educational change is complex and must be properly managed. It requires a holistic view of the educational ecosystem (Zhao & Frank, 2003), one which takes into account all the different components individually, while at the same time understanding how they interrelate and depend on one another. As such, no single model of change can be appropriate, as at different stages within the change process different models will be called for.

**At the boardroom level**

Let us begin by looking at the metaphorical boardroom setting, i.e. government level planning and administration affecting the entire system. Fullan and Miles (1992) offer seven key themes which provide a useful overarching guide within which to set any particular system-wide change: an awareness of change as both a learning process and a journey; an acknowledgement that problems are not the enemy; adequate resource allocation, process and a journey; an acknowledgement that problems exist, but affected nonetheless, must also be catered for.

Fullan and Miles stress the interrelatedness of the above themes and advocate their being viewed together in order for change to be effective. Let us consider these themes in some detail. Firstly, there is the fact that change is a process of learning for all involved, and that “things will often go wrong before they go right” (p.1). The authors, in drawing attention to findings from a 1984 study by Huberman and Miles, highlight that “the absence of early difficulty in a reform effort was usually a sign that…superficial or trivial change was being substituted for substantial change” (p. 1). As discussed above, it is essential that any assessment reform is future focused and constitutes a substantial change in order to ensure that we are not always running to catch up, and so educational leaders must be prepared to face obstacles, and must set the right conditions to allow these to be dealt with. Stemming from this idea of change as a learning process is an awareness that problems are not something to run from, gloss over, or use for blame. Fullan and Miles stress that “success…is much more likely when problems are treated as natural” (p.2) and allowing ourselves to embrace problems and work through them to find a creative, long-lasting solution leads to greater overall strength within the system. In the context of introducing new assessment practices, obstacles are bound to occur at different levels and at different times – what is paramount is that mechanisms are in place to openly address these as they arise. An important implication here for teachers is that they must approach the change with a shared awareness of these issues and with a willingness to vocalize their thoughts. Traditional resistance to major change may well be coupled with particular resistance to significant technological innovation, especially in an ageing workforce.

Appropriate resource allocation is equally vital. Too often in education, usually as a result of budgeting or political issues, potentially powerful initiatives do not have the impact or success they might have had if sufficient time and money had been set aside at the outset. As Fullan and Miles state, “every analysis of the problems of change efforts that we have seen in the last decade of research and practice has concluded that time is the salient issue” (p.2) and it could be argued that nothing has changed in the decades since then. System-wide reform takes time, and so time must be afforded it. A possible timeframe could look something like this: 18 months to two years of initial planning, developing and trialing of the innovation while working with a core group of teachers, both expert technology users as well as novice; a third year allowing all teachers in the country to experiment with the incoming DLA technology, with the availability of extensive helpdesk support; and finally a fourth year in which the DLA begins to be used in schools, starting perhaps with lower seniors and moving up a grade annually, as was done with the introduction of NCEA. Such a gradual rollout would...
allow community, tertiary institutions and employers, the latter often particularly conservative in their attitude to assessment, to become familiar with the changes and work through their own transition process without any adverse effect on school leavers. As can be seen, it will be upwards of five years before the innovation even begins to become fully ingrained in schools. This means it will span more than one governmental term in most democratic countries. It also means that a strong, visionary steering committee is needed and again underlines the importance of doing assessment reform once, and doing it right. If local governments are not sufficiently future-focused in their outlook, then by the time the change takes hold and is effectively being implemented, it will be time to move on and change once again. The negative implications of this for teachers and learners are clear – constant remodeling of assessment systems will lead to frustration, anxiety about comparability of models and a general lack of student engagement with assessment, directly counteracting the very goals assessment reform would be trying to achieve. As well as this, time considerations are important at a more localized level. Teachers must be given adequate time to experiment with the innovation – to explore it, face problems, overcome these problems, ask questions and collaborate with peers. It is essential that there is also release time given to teachers who are more advanced in their understanding of the new practice, for colleague to colleague support has been found to be a critical factor in the implementation of change (Zhao & Frank, 2003).

The final three elements outlined by Fullan and Miles are here considered as one. It is essential that change be properly managed, and this means that a simple top-down approach will not be appropriate, as “the management of change goes best when it is carried out by a cross-role group [sic]” (p.3). While the authors are speaking here from the perspective of in-school change, perhaps such an approach is exactly what is needed in systemic change. This would then lead to a steering committee made up not only of leaders in government education boards, but also of school principals, teachers and student (or recent student) representatives. Such a view has clear implications for all parties concerned and flies in the face of regular reform methods, which usually come either top-down or perhaps bottom-up; but rarely a partnership of the two. It also embraces the idea of systemic reform requiring a dual focus on the “development and interrelationships of all the main components [sic] of the system simultaneously” and on the “deeper issues of the culture [sic] of the system” (p.4). Finally, it embraces Fullan and Miles’ overarching theme, that of local implementation: “change cannot be accomplished from afar…local implementation by everyday teachers, principals, parents, and students is the only way that change happens” (p.4). Perhaps having a clear partnership between local and governmental levels from the outset is a positive step towards the ultimate success of any proposed change.

A holistic view

An approach such as that outlined above supports a more open, participatory style of educational development, which in turn mirrors a more general worldwide move towards participatory development. Developing countries are no longer being given a particular model to follow; instead they are working in partnership with developed countries and agencies, and are incorporating high levels of grassroots level input (Gregorio-Medel, n.d). Why not adopt a similar approach in upgrading assessment practices in countries with already established education systems? Not only would such an approach lead the way forward in a culture of 21st century open educational development, it would also support the long-term sustainability and continued effectiveness of the DLA assessment innovation. In his comprehensive review of sustainable technology innovation, Owston (2007) conducts a case study analysis using existing change theory to develop a holistic model for overall classroom level sustainability.

![Figure 1 – a model for sustainable innovation](Owston, 2007, p. 68)
While Owston was looking primarily at innovation that began in the classroom and moved outwards, his model can nonetheless be applied in a situation where an innovation developed through participatory practices involving stakeholders at all levels is being diffused system-wide. Furthermore, Owston also differentiates between essential (E) and contributing (C) conditions; however, as he was only exploring voluntary innovation use, in a context where innovation adoption is mandated it seems a logical conclusion, one that is supported by Fullan and Miles’ (1992) fundamental themes, that each of these contributing conditions would in fact become essential.

Within this model it is clear to see the interplay between various stakeholders with the teacher as a “keystone species” (Davis, 2008). An important implication then, as is highlighted by Owston, is the creation of comprehensive teacher professional development as this will be key to the success of any assessment change. This links to Fullan and Miles’ (1992) theme of resource allocation and is also a necessary element of Sherry and Gibson’s (2002) Learning Adoption Trajectory (LAT). The importance of incorporating intense scaffolding and multilayered teacher support throughout the duration of the change process cannot be overemphasised.

Of particular interest is also the necessity of student support feeding into teacher support and then on through to sustainability. Through his research Owston (2007) stresses that students, “often neglected in the school reform literature even though they are the entire reason why schools exist” (p.71), play an important role in the success of an innovation, a factor also acknowledged by Fullan (2001). In the case of 21st century assessment, where the goal is to directly improve not only student attainment but also the process of change. Students will also need to be guided through a similar change process; and a slightly modified version of the LAT method could well be utilized. This is one reason why having already guided teachers through such a process is important, as they will understand not only the new DLA assessment, is much more likely to develop into an essential role. Thus, the benefit of having trialled the DLA with a number of teachers across the spectrum of technological savviness is that there will be a pre-existing group who have moved through to stage five, “Teacher as Leader”, of the LAT and who can then go on to act as innovation champions within school clusters.

At the classroom level

With the teachers as the “keystone species” (Davis, 2008) it is essential they be properly guided through the change process, which includes sufficient support, time and resources. As mentioned earlier, Sherry and Gibson’s Learning Adoption Trajectory (LAT) offers an appropriate model of change. In this model, the teacher progresses through five different stages of adoption, starting with “Teacher as Learner” and ideally reaching the final goal of “Teacher as Leader” in order to help teachers move through the five stages, adequate support must be in place at each rung of the ladder. In their 2002 article, Sherry and Gibson suggest strategies corresponding to each stage that support teachers to successfully move through one stage and on to the next. These strategies focus on in-school capacity building, including ongoing peer-to-peer professional development, mentoring, support time for experimentation and collegial sharing. The implications of strategies such as these mean that teachers, so often used to working as a solo unit, must work collaboratively and collectively towards common goals. Other strategies suggested by the authors focus around the development of support resources, such as an online repository of help videos, samples of best practice and student exemplars. The importance of (a) planning this support carefully and thoroughly at the outset, and (b) allocating resources appropriately so that these plans are possible, has already been mentioned and is worth reiterating here. In his sustainability model, Owston (2007) also acknowledges “innovation champions” (p.68) as having a contributing role to play in sustainability, which, in the context of major change to assessment, is much more likely to develop into an essential role. Thus the benefit of having trialled the DLA with a number of teachers across the spectrum of technological savviness is that there will be a pre-existing group who have moved through to stage five, “Teacher as Leader”, of the LAT and who can then go on to act as innovation champions within school clusters.

At this time we must not forget the students, for they, in having a great deal of control and ownership of their DLA, will also need to be guided through a similar change process; and a slightly modified version of the LAT method could well be utilized. This is one reason why having already guided teachers through such a process is important, as they will understand not only the new DLA assessment but also the process of change. Students will also need to start out as learners, progressing on to adopters and so on up to leaders. It is likely that most students will move through these steps more quickly, given the way in which today’s youth, commonly termed digital natives, have grown up surrounded by and immersed in technology. What is appealing about this method is the way in which it embraces a changed teacher-student-assessment relationship: students become leaders alongside teachers, working together in a collaborative, mutual learning environment.

The internal transition

In addition to this external change process through which teachers, and to a lesser extent students, must
progress is a related internal transition period. Bridges and Mitchell (2000) discuss three stages within this transition period, "saying goodbye," "shifting to neutral" and "moving forward" (pp.31-32), and argue that all three must be addressed and given their due in order for change to be effective and ingrained. The first stage, involving letting go, is one that can be extremely emotional and often somewhat threatening as teachers are asked “to let go of what feels to them like their whole world of experience, their sense of identity, even "reality" itself” (p.31). The second stage involves spending time in what Bridges and Mitchell term the “neutral zone” (p.31). It is here, while in limbo after having let go but as yet unable to move forward, “where the creativity and energy of transition are found and the real transformation takes place” (p.32). Finally, when the third stage is reached, there must still be guidance and support in order to ensure that the process of “moving forward” is a positive one. As Bridges and Mitchell highlight, this transitioning process happens more slowly than change itself does and requires an ethos within schools and amongst teachers where it is alright to talk about how they are feeling without fear of reprisal or retraction.

Conclusion

Writing in 1992, Strommen and Lincoln talk of the “dramatic rift” (p. 467) between learning and teaching practices and the reality of the then modern world, arguing that this rift “has caught our children in an awkward bind as they move toward the future” (p. 467). Now, three decades later, a similar rift can be seen, only this time it is not simply a rift between assessment practices and the nature of the world outside school, but also a growing mismatch between teaching practices and assessment methods. While demonstrable progress has been achieved in terms of pedagogy, assessment practice lags further and further behind. Thus, the imperative for change is clear, lest we find ourselves another thirty years later facing an insurmountable gap. The change that is needed must strip summative assessment of its privileged status and move towards a truly integrative approach of formative and summative. Within this, students must be given their due in order for change to be effective and ingrained. The first stage, involving letting go, is one that can be extremely emotional and often somewhat threatening as teachers are asked “to let go of what feels to them like their whole world of experience, their sense of identity, even "reality" itself” (p.31). The second stage involves spending time in what Bridges and Mitchell term the “neutral zone” (p.31). It is here, while in limbo after having let go but as yet unable to move forward, “where the creativity and energy of transition are found and the real transformation takes place” (p.32). Finally, when the third stage is reached, there must still be guidance and support in order to ensure that the process of “moving forward” is a positive one. As Bridges and Mitchell highlight, this transitioning process happens more slowly than change itself does and requires an ethos within schools and amongst teachers where it is alright to talk about how they are feeling without fear of reprisal or retraction.

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