Mobile ePortfolios: A Tool for Reflection, Personal Growth, and Renewal

Don Adams
Master of Educational Technology Program
University of British Columbia
Canada
doadams@sd61.bc.ca

Abstract: As students and teachers move further into the 21st century, learning and teaching require renewal. This paper discusses the use of mobile electronic portfolios (mPortfolios) by recounting a teacher's response to a student's request. The teacher revisits student portfolios and investigates the advantages of using technology to produce them. The benefits of mPortfolios for students, teachers, and learning environments and the support that exists for their use are considered. A plan for the implementation of mPortfolios is suggested. The themes of reflection and personal growth appear repeatedly during this paper as the teacher begins to understand how engaging with the topic of mPortfolios has resulted in a state of professional renewal and optimism. The teacher reaches the conclusion that applying the process and product of mPortfolios will bring a powerful tool to play in education: a tool that will address the needs of students, teachers, parents, and administrators striving to revitalize teaching and learning.

One day while I was mixing paint Michael, a student in my Kindergarten class, approached me with his latest Lego creation. He asked, "Can you take a picture of my Lego so it can go in a magazine?" I asked him to explain. And what followed was an amazing conversation about Michael's growth and learning as he reflected on his self-driven journey to a new level of Lego mastery. We talked about the improvements he was planning and touched on many of the learning outcomes for Kindergarten. Michael suggested we post the photograph to the class Wiki. We both thought it was a good idea. But instead, our conversation ended. I went back to mixing paint and Michael went back to building Lego.

Later, I thought about our conversation and silently thanked Michael for reminding me that young children are intrinsically motivated to learn. They are able to ask questions, set goals, learn through trial and error, build on previous learning, make connections, reflect on their progress, and explain their learning. I realized that everything I believed about teaching and learning was exemplified in my conversation with Michael.

I wanted to have more conversations like this more frequently with more of my students. Looking around my classroom, I realized I could use the Smartboard, document camera, and iPads to do more than support lessons and showcase student work. I could use them to create electronic portfolios (ePortfolios) which would facilitate more authentic experiences like the one I had with Michael.

Portfolios are not a new idea. I used them early in my teaching career. They were scrapbook collections of my students' work or as described by Butler (2010) "…collections of artifacts that are gathered together to show people's learning journeys over time in order to demonstrate abilities" (p. 111). I also recall giving them up pretty quickly. They took a lot of time and effort. Still, armed with Michael's request and the belief that technology could make it easier, I started to research ePortfolios.

I quickly began to understand how my earlier dissatisfaction had arisen because I had focused on portfolios as a product removed from learning. Barrett (2012) describes a cycle of learning and reflection essential to portfolios. Planning flows into Doing. Doing is followed by Reflection which leads back to Planning (Barrett, 2012, slide 25). She reminds teachers to balance the two faces of an ePortfolio: product and process and to carefully consider that "reflection is the heart and soul of a portfolio" (Barrett, n.d., Step by Step Model section, para. 3). The primary goal of portfolios is to "help students find their purpose and passion through reflection & goal-setting" (Barrett, 2012, slide 19). My focus on showcasing and documenting student achievement came at the expense of student learning through reflection and collaboration. Butler (2010) provides a good description of balanced portfolios.

E-portfolios are being used increasingly as ways of documenting and reflecting upon a person's learning over time. Artifacts are gathered together and supported by reflections that explain the reasons they were chosen, what was learned from each piece, and what story the portfolio as a whole tells about the person (p. 109).

Reflection is a reoccurring theme in portfolio development. Papas (2010) provides a Taxonomy of Reflection, based on the work of Benjamin Bloom, for students and teachers. His steps, from higher to lower reflection, are:

Creating: What should I do next?
Evaluating: How well did I do?
Analyzing: Do I see any patterns in what I did?
Applying: Where could I use this again?
Understanding: What was important about it?
Remembering: What did I do?

As I considered this taxonomy, I realized I had become an active participant in it. I had engaged in remembering and understanding while reflecting on my conversation with Michael. I was beginning to understand portfolios as a tool for reflection and personal growth for students and teachers. It became clear that "the power of the ePortfolio comes from the underlying support structure and process, the interaction between students, peers and teachers as the specific views evolve and the student's learning is created, shaped, expressed, and owned" (New Zealand Ministry of Education, 2011, p. 5).

I wondered how I could apply this insight. I asked myself, "Why should I consider developing ePortfolios?" After all, as Butler (2010) observes, ePortfolios "evolved out of paper-based portfolios, and the same kind of thinking about purpose, pedagogy, and assessment lies behind both kinds of portfolios" (p. 110). However, she goes on to explain that the notion of ePortfolios as simply digital versions of their paper parents has changed as the previous restriction to physical items has expanded to include digital images, websites, audio files, and video files (Butler, 2010). Clearly, I needed more information about ePortfolios before I could answer my question.

ePortfolios do continue the tradition of documenting learning and promoting personal development. They preserve the traditional portfolio processes of: goal setting, collecting, selecting, reflecting, and publishing (Buzzetto-More, 2010). Their distinguishing features, however, do result in some distinct advantages over paper portfolios (Butler, 2010; New Zealand Ministry of Education, 2011; Barrett, n.d., 2012; Buzzetto-More, 2010). In summary, ePortfolios:

- promote authentic learning and assessment by capturing it in real time;
- provide a richer picture of learning and competencies through their use of pictures, graphics, animations, weblinks, video files, and audio files;
- can be structured in flexible ways to reflect a student's learning style;
- can be quickly manipulated, refined, and reorganized to suit changes in their use;
- promote formative assessment through ease of update and revision during their development;
- support summative assessment through the incorporation of learning outcomes and assessment rubrics;
- can provide continuity and be life-long;
- can be standardized;
- are quick and easy to produce;
- are small and portable;
- are instantly accessible, easier to retrieve and searchable;
- are enduring and easy to archive;
- are less costly to reproduce and can be shared easily with a wide, authentic audience;
- can provide connections to other learning and other learners; and
- maintain privacy through the use of user controls and passwords.

Continuing the theme of portfolio evolution, Barrett (n.d.) suggests that ePortfolios will continue to evolve as they are developed using emerging mobile tools like iPad/iPod iTouch/iPhone devices and Android tablets (Introduction section, para. 1). This new generation of mobile electronic portfolios or mPortfolios will resonate with today's digital natives and support her assertion that "the mobile web is becoming the personal learning environment of the *net generation*" because the learning is: "social and participatory, lifelong and life wide, increasingly self-directed, and online all of the time" (Barrett, 2012, slide 6). McCaffrey (2011) supports this view by observing that "Kids today are captivated by the personalization and socialization of online tools--the ability to build large networks of friends; share their thoughts, feelings, and goals; and communicate as they wish" (para. 7). They "now

have in their hands the tools to shape their own education in once unimagined ways" (para. 8). Basically, they are using their mobile devices and the internet to produce mobile ePortfolios or mPortfolios.

Evidently it was time for more reflection. I now understood how constructing and using portfolios could mirror my experience with Michael. I believed that ePortfolios and more specifically mPortfolios could enrich and facilitate the experience. However, before I could commit to the process and product of mPortfolios, I needed to know more about their benefits. I wanted to know more about their impact on learning and teaching.

The New Zealand Ministry of Education (2011) describes the impact of ePortfolios on learning and student performance. Students who use ePortfolios demonstrate improved: self-esteem; engagement and motivation; collaboration and creativity; progression, retention, and achievement of goals; reflecting and goal setting; communication of learning outcomes and personal identify; and giving and receiving of feedback. Butler's (2010) review of the ePortfolios echoes these improvements and further defines the benefits of ePortfolios for students. According to Butler, students who use ePortfolios:

- develop a sense of pride and personal accomplishment;
- develop a sense of their strengths and weaknesses;
- gain a broader sense of what they are learning;
- better understand the learning process;
- see their learning unfolding and understand how it takes place;
- show improved skills in technology, literacy, communication, and problem solving; and
- connect and integrate academic and non-academic topics and learning experiences.

ePortfolios place students at the center of their learning. Each student "has to decide which artifacts he/she wants to include and how to organize them in relation to his/her learning goals. As the owner of the portfolio, the person has full control of who is able to see what kind of information in his/her portfolio, how much information, and at what specific time" (Schallhart & Wieden-Bischof, 2010, p. 142). It is this sense of real learning, ownership and responsibility which drives the success of ePortfolios.

From the body of information on ePortfolios, Buzzetto-More (2010) distills the following as the most common benefits:

- authentic learning linked to real world experiences;
- guided inquiry and the processes of: initiation, selection, exploration, formulation, collection, presentation, and assessment;
- competency-based education where instruction is outcome based;
- lifelong learning directed by the individual and guided by their interests;
- autodidactism or learning that is self-directed, self-motivated, and self-taught;
- deep learning that requires reflection, intrinsic motivation, storytelling and connections; and
- constructivism where students construct knowledge and understanding through problem solving, collaboration, and evaluation.

Reflecting on the benefits of ePortfolios, I immediately appreciated their personal application. I saw the opportunity to grow as a teacher, to engage further with pedagogy and to translate theory into practice. My conversation with Michael had me reconsider my beliefs. I had glimpsed the potential impact of mPortfolios on teaching and learning. I wanted to know what support existed for their use in schools.

In 2011, the British Columbia Ministry of Education published *BC's Plan for Education* with the headline: The World has changed… The Way We Educate Our Children Should Too. Although ePortfolios are not described specifically in this document, portfolios are listed as an assessment option. The plan suggests that "to ensure students are acquiring essential skills such as self-regulation, a shift towards assessment as learning is required where students evaluate and adapt their own learning" (British Columbia Ministry of Education, 2012, p. 18). This statement directly echoes the benefits of ePortfolios. Expanding on the key element of learning empowered by technology, the plan presents a position very similar to Barrett's (2012) description of the mobile web as a personal learning environment. It states:

We increasingly use technologies such as Web 2.0 applications, online content and data, collection/visualization tools to research, collaborate, communicate, design, and create. In school, students should develop the competencies to use these emerging technologies effectively. Personalized learning tailors

curriculum, instruction and assessment to individual student needs. Technology-based planning, assessment, evaluation and reporting systems are needed to manage this complexity (British Columbia Ministry of Education, 2012, p. 22).

The British Columbia Ministry of Education also references the practice of portfolios in several of its publications. The *Assessment Handbooks Series: Portfolio Assessment, The Primary Program,* the *Full Day Kindergarten Program Guide,* and *Reporting Student Progress: Policy and Practice* all provide information on the development of portfolios and recognize their use as an efficacious educational tool (British Columbia Ministry of Education, 1994, 2000, n.d., 2009b).

Concerned with the politics of *BC's Plan for Education* and describing it as "more detailed, but still somewhat vague" (Kuehn, 2011, para. 1), the British Columbia Teachers' Federation (BCTF) recently renewed its call for authentic assessment in *Better Schools for BC* (BCTF, 2011) and has identified portfolios as an example of authentic assessment (BCTF, n.d., para. 2). *The Practice of Teaching: A Handbook for New Teachers and TTOCs*, lists portfolios as an option for student assessment and recognizes their value in demonstrating learning and supporting evaluation (BCTF, 2010, p. 29).

To support the introduction of full day kindergarten, the Ministry of Education, the British Columbia Principals' and Vice Principals' Association, and the British Columbia Primary Teachers' Association, produced *Assessment for Learning in Kindergarten: Developing Student Portfolios.* This series of slides describes the development and use of portfolios and encourages their use with young children (British Columbia Ministry of Education, 2009a).

Writing for the British Columbia Confederation of Parent Advisory Councils, Abraham and Gram (2007) reference portfolios and list the benefits of their use for students, teachers and parents in their book *Student Assessment in B.C.'s Public Schools: A Guide for Parents* (p. 9).

Once again, it was time to reengage with Pappas's (2010) taxonomy of reflection. In considering ePortfolios, I had remembered and evaluated my experience. Through research, I had developed greater understanding. Considering the benefits of ePortfolios, I had developed insight into their application. In analyzing the position of various education stakeholders, I had observed a pattern of support for ePortfolios. I was finally convinced that developing and using mPortfolios was the direction I wanted to take.

The New Zealand Ministry of Education (2011) cites the Penn State University slogan: "Collect, Select, Reflect, Publish" as a good description of the steps to ePortfolio development (p. 56), and notes that as a first step "teachers need to be competent ePortfolio users before implementing a digital portfolio approach with their class" as it "provides them with familiarity and appreciation of the rationale behind the process and direct experience of the benefits" (p. 9).

Barrett (n.d.) has developed an online course for mPortfolios and recommends beginning with the question "What is your vision for mPortfolios in your classroom/school/district?" Barrett acknowledges three major purposes for mPortfolios. She assigns each purpose a level which corresponds to a place in the process of mPortfolio development. These levels also suggest an order to consider when implementing mPortfolios (Step by Step Model section).

In Level 1, mPortfolios are used as storage and are appropriate for all ages and users groups. Users produce a collection of digital documents stored online. In Level 2, mPortfolios are used as workspaces and are appropriate for all ages and user groups. Users reflect on their collections which are generally arranged chronologically. Formative evaluation may take place with feedback from others. In Level 3, mPortfolios are used as showcases and are most appropriate for older users. Users select items from their collections for evaluation and presentation. Items are typically grouped thematically. Summative evaluation may take place using rubrics and performance standards.

Barrett (n.d.) expands this model through lessons which present the challenges and rewards inherent in each level of mPortfolio implementation. Preserving the balance of mPortfolios as a process and product is key to addressing the challenges and experiencing the rewards. This requires significant planning, implementation, and reflection. She recommends that users consider a three year plan for the implementation of mPortfolios (Course Lessons section). Schallhart and Wieden-Bischof (2010) consider the process of ePortfolios so crucial to realizing their benefits, that they recommend users devote a year to the process of traditional portfolios before they consider using electronic devices.

Reviewing the work of Butler (2010), the New Zealand Ministry of Education (2011), Barrett (n.d., 2012) and Schallhart and Wieden-Bischof (2010), I quickly realized the significant commitment required to realize the use of mPortfolios in my classroom. As I move through the levels of mPortfolios implementation, I need to consider the following:

- What is the purpose for implementing mPortfolios?
- How will a personal commitment to the use of mPortfolios be demonstrated?
- What is the plan for addressing the pedagogy of teaching, learning, and assessment?
- How will the processes, strategies, and skills involved in mPortfolios be developed?
- What provisions must be made for the use of mPortfolios within the current standards and practices for assessment and reporting?
- How will the concerns of the major stakeholders in the classroom be addressed?
- What process will be used for communicating progress?
- What sources of professional and personal support are available?
- What technical support will be required?
- How will the classroom be configured to support mPortfolio development?
- What knowledge, skills and expertise are needed?
- What hardware and software is required?
- What funding is required and how will it be spent?
- What provisions need to be made in order for the school's network to support the use of mPortfolios?
- What are the policies and what provisions must be made for the use of Wifi and the internet?
- What are the policies and what provisions must be made for privacy and security.
- How will the issue of equity be addressed?

And perhaps most importantly, "What are the plans, timelines, and methods of evaluation for each phase of mPortfolio implementation?" My answer is, "I don't know but I am excited about beginning the process!"

As my students and I move further into the 21st century, I believe learning and teaching require renewal. Reflection and personal growth presented themselves repeatedly during the writing of this paper. Engaging with these topics and planning to implement the process and product of mPortfolios has left me feeling reenergized. I feel optimistic about entering a new phase in my teaching career. I believe applying the process and product of mPortfolios will bring a powerful tool to play in education: a tool that will address the needs of students, teachers, parents, and administrators as we strive to revitalize teaching and learning.

Who knows - three years from now my experience with Michael might play out very differently. As I mix paint, I watch Michael use an iPad to access his mPortfolio and create a movie about his latest Lego creation. Later, he shares the movie with the class. The children ask questions. Michael reflects and discusses his creation. I video the process and check off the demonstrated learning outcomes. Michael emails the movie to his parents. What is the difference? In this second scenario, Michael and I share a powerfully authentic educational experience. An experience more like the one Michael requested, more like the one I desire, and more like the one we both deserve.

References

Abraham, C. & Gram, J. (2007). *Student Assessment in B.C.'s Public School : A Guide for Parents*. Burnaby, BC: British Columbia Confederation of Parent Advisory Councils' book Retrieved from http://bccpac.bc.ca/sites/default/files/resources/studentassessmentbcparentguide_2007.pdf

Barrett, Helen. (n.d.). In *mportfolios.* Retrieved October 24, 2012, from https://sites.google.com/site/mportfolios/home

Barrett, Helen. (2012, October 24). *Mobile eportfolios: Planning/goal setting, capturing the moment, reflecting over time* (Slideshare slides). Retrieved from http://www.slideshare.net/eportfolios

British Columbia Ministry of Education. (n.d.). *Full day kindergarten program guide*. Victoria, BC: British Columbia Ministry of Education. Retrieved from http://www.bced.gov.bc.ca/early_learning/fdk/pdfs/fdk_program_guide.pdf

British Columbia Ministry of Education. (1994). *Assessment handbooks series: Portfolio assessment*. Retrieved from http://www.bced.gov.bc.ca/classroom_assessment/portfolio.pdf

British Columbia Ministry of Education. (2000). *The primary program.* Victoria, BC: British Columbia Ministry of Education. Retrieved from http://www.bced.gov.bc.ca/primary_program/primary_prog.pdf

British Columbia Ministry of Education. (2009a). *Assessment for learning in kindergarten: Developing student portfolios* (PowerPoint slides). Retrieved from

http://www.bced.gov.bc.ca/early_learning/fdk/klp/welcome.php?page=assessment_and_support_materials&material=student_portfolios

British Columbia Ministry of Education. (2009b) *Reporting student progress: Policy and practice.* Victoria, BC: British Columbia Ministry of Education. Retrieved from http://www.bced.gov.bc.ca/classroom_assessment/09_report_student_prog.pdf

British Columbia Ministry of Education. (2011). *BC's education plan.* Retrieved from http://www.bcedplan.ca/welcome.php

British Columbia Ministry of Education. (2012). *Personalized learning in BC: Interactive discussion guide.* Retrieved from http://personalizedlearningbc.ca/#/1

British Columbia Teachers' Federation. (n.d.). *Authentic assessment.* Retrieved from http://bctf.ca/SocialJustice.aspx?id=15064

British Columbia Teachers' Federation. (2010). *The practice of teaching: A handbook for new teachers and ttocs.* Vancouver, BC: British Columbia Teachers' Federation. Retrieved from http://bctf.ca/uploadedfiles/public/NewTeachers/handbook.pdf

British Columbia Teachers' Federation. (2011, April). *Better schools for BC*: A plan for quality public education. *Teacher Newsmagazine,* 23 (6). Retrieved from http://www.bctf.ca/publications/NewsmagArticle.aspx?id=22903

Butler, P. (2010). Chapter 6: E-portfolios, pedagogy and implementation in higher education: considerations from the literature. In N. Buzzetto-More (Ed.), *The e-portfolio paradigm: informing, educating, assessing, and managing with e-portfolios.* (pp. 109-140). Retrieved from http://books.google.com/books

Buzzetto-More, N. (2010). Chapter 1: Understanding e-portfolios and their applications. In N. Buzzetto-More (Ed.), *The e-portfolio paradigm: informing, educating, assessing, and managing with e-portfolios.* (pp. 1-18). Retrieved from http://books.google.com/books

Kuehn, L. (2011, December). BC's education plan: experiments with kids' learning. *Teacher Newsmagazine,* 24 (3). Retrieved from http://www.bctf.ca/publications/NewsmagArticle.aspx?id=24450

McCaffrey, M. (2011, February 8). Why mobile is a must. *The journal; Transforming education through technology*. Retrieved from http://thejournal.com/articles/2011/02/08/why-mobile-is-a-must.aspx

New Zealand Ministry of Education. (2011). *Digital portfolios: Guidelines for beginners*. Retrieved from http://www.minedu.govt.nz/~/media/MinEdu/Files/EducationSectors/PrimarySecondary/Initiatives/ITAdminSystems/DigitalPortfoliosGuidelinesForBeginnersFeb11.pdf

Pappas, P. (2010, January 4). *A taxonomy of reflection: Critical thinking for students, teachers, and principals* (Weblog message). Retrieved from http://www.peterpappas.com/2010/01/taxonomy-reflection-critical-thinking-students-teachers-principals-.html

Schallhart, E. & Wieden-Bischof, D. (2010). Chapter 7: Working with eportfolios in kindergarten institutions. In N. Buzzetto-More (Ed.), *The e-portfolio paradigm: informing, educating, assessing, and managing with e-portfolios*. (pp. 141-159). Retrieved from http://books.google.com/books

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