

A ‘Sense of self’ through Reflective Thinking in ePortfolios

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Abstract: *ePortfolios are becoming more widely used as flexible storehouses for students to collect evidence of learning and documentation of achievement. Rather than being used for a sole purpose, Higher Education institutions are planning for ePortfolios to be embedded in degree programs. Students manipulate their learning artifacts to demonstrate achievement in different content areas and to develop skills for other arenas, such as work readiness and identity development. Two independent research studies that sought to understand the values and outcomes of ePortfolios in teacher education programs in two Higher Education institutions in Australia shared their results to compare student ‘voices’.*

The studies confirmed many positive outcomes for using ePortfolios for several purposes in higher education. The researchers found that the student immersion in the creative process and reflective practice of constructing an ePortfolio produced a strong ‘sense of self’ with regard to their future or current profession as teachers. ePortfolio development encourages students’ ‘sense of self’ through a process of skills-uptake such as organization; collecting and classifying of evidence; utilization of tools; and reflection on and in discipline specific knowledge, learning and tasks; and, higher order thinking such as synthesis and evaluation of learning. This paper proposes a framework based on Ryan and Deci’s (2000) Self-Determination Theory and Lawrence’s (2006) Self-Concept to encapsulate the strength of ePortfolio creation on student’s thinking about their ‘ideal self’ as a practitioner.

Keywords: *ePortfolios; reflective practice; identity development; self-determination; self-concept.*

1. INTRODUCTION

“The absolute essentials of ePortfolios are purpose, reflection, and communication.” (Hartnell-Young, 2006, p.125).

ePortfolio environments can be regarded as depositories for a broad range of types of documents and artifacts collected by the owner, which may lead to formulaic impersonal assemblages for review. In asking appropriate and pertinent reflective questions or assisting the owner to assemble their knowledge and experiences in meaningful ways, the owner of the ePortfolio begins to exert self-control, and the creation of the ePortfolio itself becomes internally rewarding. Students creating ePortfolios that explain their conscious valuing for their future or current profession (e.g. as an educator of young children) show a growing sense of self in two independent research studies reported here.

2. BACKGROUND

ePortfolios were introduced to Higher Education for various purposes (Hartnell-Young, 2006; Stefani, Mason & Pegler, 2007; Gerbic, Lewis & Northover, 2009), the main being “an inventory of acquired knowledge and skills”. Since their introduction different researchers have described varied impacts on student learning through their use (Tzeng, 2011; Ottenbreit-Leftwich, et al, 2012).

Embedded ePortfolios have reportedly been more successful in encouraging students in engaging with the ePortfolio process (Hughes, 2010; Keppell & Munday, 2010). An ePortfolio designed for use over several years of study can give students a set of practices that enable the creator and viewer to witness growth and development. The interactions and processes of constructing the ePortfolio at each progressive stage have been shown to raise awareness of students’ multi-dimensional possible self. The learning process undertaken during the ePortfolio development shows that a student will use the ePortfolio to move or transition from archive to self portrait as a

result of having to collect evidence about them selves (Bennett, Rowley, Dunbar-Hall, Blom, Hitchcock, 2014).

Other researchers have written about the self-discipline and self-directedness of ePortfolio creation. Juliana Chau and Gary Cheng (2010) have observed independent learning in a research project where students were invited to create ePortfolios voluntarily. The researchers say that the ePortfolio may go beyond “independent learning” to include the development of identity in the creator. They recommended four principles of ePortfolio design, the fourth of which is “to sponsor teacher and learner investment by providing built in facilities that take account of their unique socio-historical development of a sense of self and identity (p.943).”

In describing the outcomes of research on embedded ePortfolios in Teacher Education, Pelliccione and Dixon (2008) refer to this independent learning as “empowerment” and “self revelation”. Their research study provided them with an unexpected outcome of the students being “identified... as [having] a greater awareness of their own personal growth and self revelation through the ePortfolio process (p.758).” The authors agree with the views of the researchers of these studies and see ePortfolios as a way to promote active engagement in future oriented professional practice.

Through the research discussed in this paper we are able to describe how ePortfolio influences aspects of students’ professional training as teachers, for example students’ engagement in ePortfolio creation requires them to synthesise and evaluate material learned in their university degree studies, therefore encouraging higher levels of thinking. The authors propose that Self-Determination Theory could explain the outcome of improved ‘sense of self’, since the ePortfolio provides “three innate psychological needs—competence, autonomy, and relatedness... (Ryan & Deci, 2000, p.68)”. Even though Ryan and Deci put forward the idea that optimally authentic motivation comes from self-authored works in order to have more interest and present enhanced performance, by providing the assessment task of ePortfolio educators are providing an environment in which the student can reflect and consider personal learning, performance, personal experience, and well-being. The endorsement of the task for academic assessment gives the student an “acknowledgement of feelings” and provides them with choice of what to present and how to present it—giving them control over what is contained within the portfolio—autonomy. Since the reflective nature of an ePortfolio asks a student to consider internal feelings and their own ideas, this leads to “further transformation” that emanates from their “sense of self” (p.71). Ryan and Deci would explain this as “extrinsic motivation” because it comes from the social environment.

Since this theory of Self-Determination has resonance with the findings of the two research studies, this paper uses the Ryan and Deci model as a framework through which the analysis is discussed. Likewise, the model of ideal self by Lawrence (2006) is overlaid into this self-determination model to demonstrate how a student has the potential to progress through a sense of self as a result of ePortfolio creation. We are defining ‘sense of self’ as one’s own understanding of the wholeness of a person’s abilities, and the capabilities they will use when in possible workplaces.

This paper is divided into three further sections: First, the model will be introduced and discussed; Second, the two research studies and their methods and participants will be explained; Finally, we will present results and student comments and propose that the model can be used as a tool to identify students stage/level sense of self. Our conclusion is that progressing to a sense of self is the most valuable outcome of an ePortfolio, because students construct a narrative of who they are leading to their ideal self, which opens up avenues for future employment. The progress from self-image to ideal-self provides them with the tools to be highly employable. We believe this paper will show that there is a relationship between ePortfolios, ego-development, and identity construction, which demonstrates their competence and sense of self.

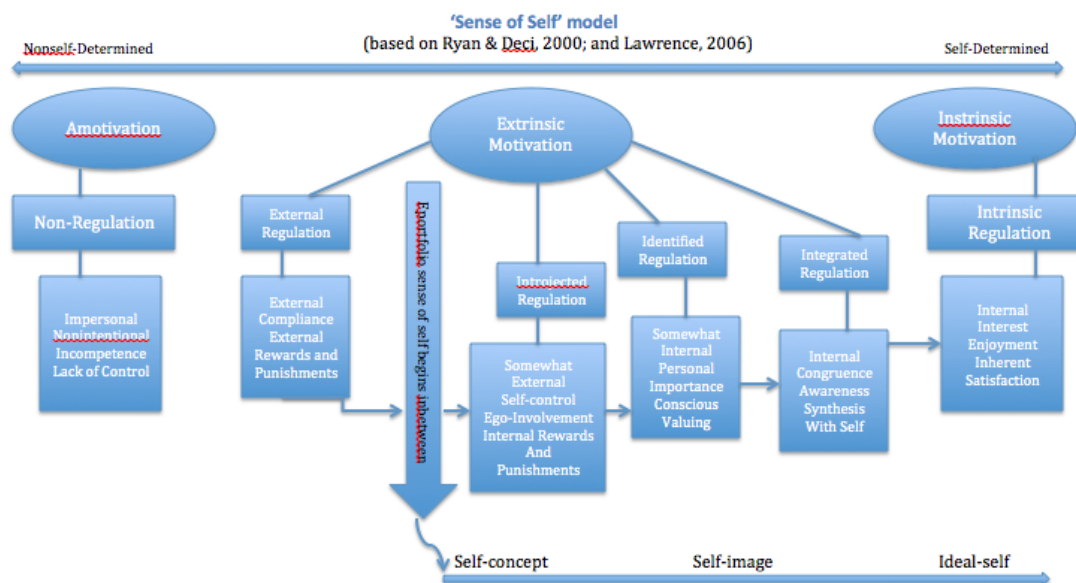
3. SENSE OF SELF-MODEL

It wasn’t always the expectation that a sense of self would be an outcome of ePortfolio practices, however, the process of asking students to comply with external regulatory tasks, in many cases, begins to build a sense of conscious valuing of their labour. ePortfolios have been seen by students to be labour-intensive and sometimes not worth the effort (Gerbic et al. 2009, p.328).

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Nevertheless, with well-designed curriculum and scaffolding a student will begin to value their reflective practice and take ownership of their knowledge—this not only enhances their view of self-importance, but also leads them towards enhancing their self-concept, which provides internal rewards.

Fig1.



Understanding that self-determination, according to Ryan & Deci (2000), is central to successful realization of achievement, the researchers have categorized results of their two studies in the light of the self-determination model. The model has been adapted to more clearly articulate the outcomes of ePortfolios for participants in the studies.

Psychologists, Richard Ryan and Edward Deci, proposed a classification between two polar extremes, one end being non-self determination, where Amotivation is experienced, as is no stake in the locus of causality. (Some ePortfolios in Higher Education do fit this model.) The other extreme sees self-determination producing enjoyment and inherent satisfaction in the said task. Enjoyment of learning and ownership of that learning is an ideal outcome. However, it is not the expectation that students reach this as a result of completing any particular task set within the ePortfolio creation. It is more that we put forward a case where the students can attain an intrinsic motivation and enjoyment as a result of undertaking the ePortfolio process.

The ePortfolio tasks or creation are providing the extrinsic motivation shown in the middle section of the model. We need to note that Ryan & Deci are proposing that it's difficult to propel students out of the extrinsic to the intrinsic—we are proposing that the ePortfolio facilitates an easier passage into the internal motivation end of the spectrum.

By overlaying Lawrence's three aspects of self-concept we have a rationale for that movement from the extrinsic to the intrinsic (2006, p.3). We are inserting Lawrence's model into the self-determination model by Ryan and Deci to encapsulate how and why an ePortfolio benefits students' escalation into professional identity.

We have placed the Lawrence model across the extrinsic motivation centre of the Ryan and Deci model at the point where the external compliance moves into student acceptance and decision of worth or value. We see the ePortfolio submissions from students who struggle or minimalise the activity's value as fitting under the external regulation category. By placing the self-concept figure thus, the authors recognized the understanding some students have that the time spent working in the task has value, and begins to have personal importance. We see this as a first step for a student having a 'sense of self'.

The intersection of these two models acknowledges the importance of students sense of self in ePortfolio creation and therefore recognizes why decisions about ePortfolio content matters.

Randomly assigning learning activities to ePortfolio can impede the students' progress through to intrinsic motivation. Designed ePortfolio activities contribute to a student's awareness, congruence and synthesis with the learning materials, hence a synthesis with self. The ePortfolio and identity are integrally linked through the process of selecting, gathering, reflecting and critiquing one's own work. As representations of the self, ePortfolios have to be considered in the context of the labour markets in which students will work. ePortfolios developed as a process of storying have the potential to house self-constructed identities as the narrative aspect of an ePortfolio allows a self-constructed identity to be imagined, conveyed and refined over time (McAlpine, 2005). Students, therefore, imagining and preparing for a professional career will think about extrinsic factors such as how to do a job or manage a career. They will also engage in thoughts about the intrinsic aspects of self and identity. The synergies between ePortfolios and learning equaled a 'sense of self', and possibly an 'ideal self'.

4. METHOD AND PARTICIPANTS

The study samples were drawn from graduates in music education and teacher education at two Australian universities—one rural and one urban (N=41). The combination of music and teacher education provided points of comparison to 'sense of self' issues specific to teacher education, and those that might apply more generally.

Both studies adopted a qualitative approach and were informed by the theoretical framework of Deci and Ryan where people are understood to be influenced by their awareness of motivation and consciousness of self-perceived as desirable and/or achievable. The literature informed the development of interview questions and common themes were refined to extract points of intersection between the two studies. This paper's methodology regards each interviewee involved as a case study (Cohen & Manion, 1996), and uses qualitative comments from interviews as the basis of the case study. In the first study the interviews were semi-structured to allow interviewees to present differences between their current place of teaching music and their story of becoming a music teacher to be told (Burns, 2000). A qualitative analysis of a forty-five minute face-to-face interview through a semi-structured interview designed to elicit aspects related to professional identity and experience as a recently graduated teacher. In the second study, graduates were asked if a copy of their final ePortfolio could be discussed in a semi-structured interview; after which the interview transcript and the ePortfolio were analysed for their text and images using a qualitative content analysis method (Berg, 2001; Brandes & Boskic, 2008; Krippendorff, 2003).

Students were invited to participate in the studies as part of their status as graduate and through completion of an exit survey upon completing the degree. Ethics approval was given for the two separate studies. Data collection was delivered independently at each location, and involved surveys, individual interviews, and the ePortfolios. Whilst most data collection was conducted in person, the submission of completed surveys for inclusion in the study data was entirely voluntary.

An important enquiry for the research at the urban University sought to understand the extent to which the ePortfolio impacted on graduate students' professional skills development. The participants had graduated as a music teacher and were currently teaching in some capacity in NSW schools. For the purpose of this aspect of the study the ePortfolio was defined as a 'digitized collection of artifacts, including demonstrations and resources, and accomplishments' (Lorenzo and Ittelson 2005, p. 3). The ePortfolio was embedded into the degree program that the participants had undertaken and the question they were asked was "How had the degree program prepared you for your professional practice". Although the interview in this first study was not based on the impact of ePortfolio, all 20 interviewees raised the inclusion of the ePortfolio in their degree program as being an impact on their preparation for professional practice. The intent of the embedding of the ePortfolio into the degree program was that it would provide students with the skills and motivation to document their academic and artistic outcomes for enhanced employability. This phase of the research followed an exit survey students completed at the end of their initial teacher training as secondary school music teachers and was used to inform the semi-structured interview. Results of the exit survey revealed there were similar negatives and positive aspects amongst participants about becoming a music teacher; reasons for choosing music teaching as a career had changed since beginning their studies; a shift of identity from

musician to music teacher; benefits of professional experience for developing essential teaching and learning skills were key to a graduate's motivation for becoming a music teacher; and the technology through ePortfolio creation over the four years introduced in their degree program impacted their experiences as a beginning teacher (Rowley 2010, 2011, 2012).

The initial teacher training program had ePortfolio development embedded into the degree program and respondents noted that this provided experience in IT-assisted learning and teaching along with development and application of students' technological skills (Taylor, Dunbar-Hall, Rowley, 2012). Also evident was that ePortfolio creation allowed students to appropriately manage processes for graduates to document government mandated accreditation requirements for school music teachers in addition to allowing the opportunity to show students' multiple music identities and sense of self (Dunbar-Hall, Rowley, Webb & Bell, 2010).

The study in the rural University centred specifically on the ePortfolio as the point of discussion in the interviews. Graduates of the degree program were invited to discuss their design choices and skill recognition in the creation process for the final 'capstone' version of their ePortfolio. The study specifically sought to explore graduates' understanding of the skills gained in maintaining documentation and evidence over the period of a degree program, particularly in regard to choosing showcase material for their final submission and the value of reflecting on their development and learning over the entire degree.

The participants in the second study were extremely positive about the final product of their ePortfolio and many remarked about their sense of development from using it as an early reflective tool at the beginning of their degree through to capstone creation. Similarly to the urban study, the second study highlighted the increased confidence in using tools and platforms of technology, which transferred into their professional teaching in the classroom (Munday, 2014).

5. RESULTS / DISCUSSION

In this paper we propose that creating a portfolio as a student can assist in the development of sense of self. The following students comments provide evidence that the graduates felt prepared for embarking on professional practice as a result of the ePortfolio creation during their degree program.

To what extent might the process of creating an ePortfolio influence students' sense of self? In the first study the recent graduates' early experiences teaching music have been particularly informative about how the teacher preparation program helped to shape their sense of self and discovering careers that allow them to express their unique personal and musical identity. The respondents emphasised the usefulness of ePortfolio development throughout their degree program and the diverse opportunities it afforded for pursuing an integrated music teacher identity. One respondent specifically mentioned changes to her teaching in having been through the process of creating an ePortfolio:

...knowing that there is something that gives students the ability to amass material and easily find it, to invite people to view it . . . has changed the way I teach . . . because I know that that resource is there for them. . . . directing (students) to keep things in their portfolio.... and I wouldn't have thought to teach that way before . . . [Participant 11].

Likewise, in the second study, graduates identified a change in thinking and teaching through the process of reflection on their own learning:

With understanding of these conditions as the 'how' of 21st century learning, my pedagogy has changed significantly. I now scrutinise and adapt content so that learners construct their own questions and peer-tutor each other in developing and sharing knowledge. I derive new knowledge myself in this way... [Participant C].

ePortfolio is seen in development of teachers' identity by collecting personal identity, and perhaps as the site of multiple identities (teacher, musician, performer, pedagogue etc.). The concept of sense of self is identified as a specific application of ePortfolios through an awareness that ePortfolio work assists students in developing an ability take on new roles and responsibilities and to adapt to and work with new knowledge (Rowley, 2012).

Participants reported the level of flexibility in their thinking as a result of creating an ePortfolio:

I see music education now as a lifelong career choice, maybe not always teaching as I have developed a range of skills that include being able to clearly articulate the skills I have now [Participant 02].

...critical thinking, communication, collaboration and creativity. This allowed for a shift in my practice being realized... [Participant R].

Teaching and a career in education may not always go hand-in-hand, as some interviewees in the first study expressed future possibilities working in the field of education but outside the classroom:

I would eventually like to try, for example, syllabus development or working for a company such as Sydney Symphony in their education department. Developing the portfolio gave me the skills, knowledge and motivation to think about this as a future option [Participant 20].

ePortfolio allows students to present as individuals, and to show their multiple identities (including music business managers, composers, performers, researchers, teachers, and technology experts) through varying forms of ePortfolio components:

My everlasting passion lies in music, however, I recently discovered a more profound passion, that is, teaching music. The ePortfolio helped me to make that important decision [Participant 04].

Music was the vehicle to teaching. I identify as a teacher and feel confident about who I am becoming... but music is important to me [Participant 09].

The ePortfolio allowed me to see clearly. I see teaching in general as a life long career because music is not going to be something that I give up suddenly; you are never going to "lose" music [Participant 08].

Many graduates do not have rigidity or certainty when at the early stage of their profession because they are still in the process of integrating and forming their identities. Ongoing processing of sense of self can depend on attitude i.e. a fixed versus a growth mindset. As a process, there may be identity formation strategies, which inform how graduates go about forming their identity, and use of ePortfolios as a tool to enhance identity awareness during teacher preparation:

I was very protected. I thought, I'm playing this too safe. I want to take a challenge and I want to have a new experience. I knew I could do this. My portfolio allowed me to think critically about who I was [Participant 15].

The participants in the second study were already practicing teachers and also demonstrated this willingness to flexibility and future change through the reflective process. The following quotation comes from a participant's explanation for the use of a metaphor in the capstone ePortfolio:

The 'compass' represents for me a concept of virtual navigation. It is one of exploration and inquiry, one that enables learner's choice and opportunity for change. It stands as a metaphor for my own self directed navigation in my life... [Participant R].

It can be seen, therefore, that the proposed model in this paper can be used as a tool to identify students' stage or level of sense of self. The movement of student from non-self determined to self determined as a result of engaging in the ePortfolio learning process where the act of students gathering evidence of their skill and classifying that evidence to match standards or competencies (e.g. in the case of graduate teacher standards) provides the students with a self identity.

6. CONCLUSION

It is important not to neglect the value of why a task or learning activity is being done, as this contributes to students' understanding of their own learning narrative. As educators, we should continue to nurture a student's psychological development with meaningful and engaging learning experiences within a supportive and scaffolded learning environment. ePortfolio development encourages students' 'sense of self' through a process of skills-uptake such as organisation,

collecting and classifying of evidence; utilization of tools and reflection *on*, and *in*, discipline specific knowledge, learning and tasks; higher order thinking such as synthesis and evaluation of learning.

This paper proposes a framework based on Ryan and Deci's (2000) Self-Determination Theory and Lawrence's (2006) Self-Concept to encapsulate the strength of ePortfolio creation on student's thinking about their 'ideal self' as a professional practitioner. The three boxes below the model determine that degree and need for external or internal self control. These congruencies are the key to self-awareness - a sense of self.

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