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Pre-service Visual Art Teachers' Perceptions of Assessment in Online Learning

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Abstract: *This paper reports on a study conducted into how one cohort of Master of Teaching pre-service visual art teachers perceived their learning in a fully online learning environment. Located in an Australian urban university, this qualitative study provided insights into a number of areas associated with higher education online learning, including that of assessment, the focus of this paper. Authentic assessment tasks were designed within the University's learning and teaching framework of constructive alignment and were sequenced across the three semesters of the visual art program. Analysis of data collected through a questionnaire and semi-structured interviews revealed that participants largely held very positive attitudes about the suite of online assessment tasks, particularly in light of (a) the collaborative learning that took place, (b) the nature, structure and sequence of the tasks, and (c) the ways in which the tasks contributed to their workplace readiness.*

Use of Terms

In the University that contextualises the study reported on in this paper:
- "course" refers to the suite of units that comprise undergraduate and postgraduate degrees
- "unit" represents one semester's work in a specified area or discipline
- "program of visual art" is the suite of curriculum units included in the pre-service teaching undergraduate course

Authentic assessment is defined in the context of this paper as assessment "requiring students to use the same competencies, or combinations of knowledge, skills, and attitudes that they need to apply in the criterion situation in professional life" (Gulikers, Bastiaens, & Kirschner, 2004, p. 69).

Introduction

With the rapid expansion and accessibility of online learning technologies, the landscape of learning and teaching in higher education has changed significantly during the past decade. Online instruction through the Internet is the fastest growth area within higher education in many countries (Allen & Seaman, 2011), and this trend is set to escalate

(Tremblay, Lalancette, & Roseveare, 2012), particularly with the evolution of massive open online courses (Irvine, Code, & Richards, 2013; Morris, 2013). Online learning has become the preferred option for many higher education students as evidenced, for example, in the USA where approximately 33% of all students enrolled in at least one online course in 2007, representing a 12% increase from 2006 (Allen & Seaman, 2008). The many advantages of online learning are well documented, and include increased accessibility to higher education for students living in remote or regional areas (e.g., Castle & McGuire, 2010; Dell, Hobbs, & Miller, 2008; Robina & Anderson, 2010), or for those combining work with study (e.g., Chau, 2010; Paulus et al., 2010). These are advantages that are pertinent in the context of the study reported here – the Australian State of Tasmania, which is classified in its entirety as regional or remote (Australian Bureau of Statistics, 2003) and whose (sole) university student body comprises many who would not be in a position to attend university without part or full-time employment.

Within this altered and arguably more complex higher education context (Ross, Gallagher, & Macleod, 2013), teaching models and pedagogies have been, and continue to be developed to cater for the learning needs of new generations of students (see, e.g., Amador & Mederer, 2013; Muir, Allen, Rayner, & Cleland, 2013; Parker, Maor, & Herrington, 2013). Preparing students in the online environment in professional degree courses, such as teacher education—the context of this paper—brings with it particular implications and requirements around the integration of theory and practice and the facilitation of workplace readiness. While there is evidence of success in these areas (see, e.g., Chiero & Beare, 2010), much scope remains for the development and evaluation of online delivery models and courseware that effectively prepare those entering the profession. This is particularly the case in creative and performance-based disciplines, such as visual art, in which teachers engage students in "hands on," practical activities.

In this paper, we report on a study that we conducted into how one cohort of Master of Teaching (MTeach) pre-service visual art teachers perceived their learning in a fully online learning environment. The study provided a number of insights into areas associated with higher education online learning, including that of assessment, upon which we focus here. The particular contribution that we seek to make in this paper is through presenting and discussing participants' responses to a suite of online visual art assessment tasks in light of how they were perceived to facilitate learning and foster professional growth.

Online Assessment in the Visual Art Program

Assessment tasks in the visual art program were designed within the University's learning and teaching framework of constructive alignment:

> The process of constructively aligning teaching, learning and assessment (curriculum) relies on interactive feedback loops: feedback from the students to use in the form of their responses to our assessment tasks …; and our feedback to the students on how they could learn even more effectively. … Setting clear outcomes for learning is the first stage of this process. These outcomes will take into account the relevant generic graduate attributes as well as subject specific attributes. (University of Tasmania, 2011, p. 12)

Assessment was therefore designed not only to enhance students' knowledge and skills in visual art but also to develop employability skills such as team work, communication skills, and problem solving.

As noted by the University of Queensland (2012), the assessment literature on pre-service teacher education proposes a number of specific tasks that enhance the conduct of authentic assessment, a key consideration in the design of the visual art assessment program. The inclusion of these types of assessment activities, for example, e-portfolios, reflective inquiries and teacher research, "require preservice teachers to integrate knowledge across domains and to consider in a reflective and reflexive manner the nexus between theory, knowledge and practice" (University of Queensland, 2012, p. 5).

The provision of authentic assessment is key to the unit design and pedagogy in the visual art program discussed in this paper. The aim of the program developer was to provide students with transformative, constructivist experiences through assessment that challenged their thinking and prepared them for their future work with a diverse range of learners. Given that the program was conducted fully online, the development of a collaborative learning environment was considered crucial. To this end, students were expected, for example, to contribute regularly to weekly discussion forums, to participate in tutor-facilitated web-conferences, to form online study/discussion groups, to share teaching materials and artefacts, to make weekly entries in online journals, which informed several of the summative tasks, that others could read and comment on, and to provide critical appraisal of each other's draft written work. Thus, learning took place in what Gewerc, Montero, and Lama (2014, Introduction section, para 2) refer to as both "formal" and "informal learning spaces." The six assessment tasks were completed in this collaborative environment. It must be acknowledged that the small class size (10 students) enabled the provision of regular feedback, particularly by the tutor, in a way that would arguably not be feasible with larger groups. The tutor monitored the online engagement and interaction of all students, and, where appropriate, provided feedback to every student, at least twice weekly.

The summative assessment tasks across the three units of the Visual Art program included the following: a reflective blog; a "Form+Theme+Context" teaching plan and reflection; a teaching research task; a metaphor task; a backward learning plan; and a "whole school plan" planning and evaluation task. While none of these types of assessment is new to pre-service teacher education (see, e.g., Bannink, 2009; Yardley, Lock, & Walsh, 2009), their design and sequencing in the online delivery mode represents an innovative approach in visual art higher education teaching. A brief description of all summative tasks can be found at Appendix A and we exemplify below through the "metaphor task" how they were conducted online. In the metaphor task, students are required to (a) physically create their metaphor for teaching through the lens of art, (b) document their creation through the use of a digital journal, and (c) write a rationale that positions the metaphor within a critical theoretical framework. In the rationale, they are expected to address the dilemma of how they, as artists and teachers, align themselves with the curriculum. Students collaborate with their peers and tutor to reflect on and review each stage of the task (a, b and c) through targeted discussion forums and webconferencing.

Assessment tasks, which were constructively aligned with the unit and course outcomes, developed in complexity as student understanding evolved across the three visual art units. They were intended to build knowledge and understanding in a cumulative way, with each task informing the next. Further, the suite of tasks was conceptualised through the lens of Bloom's (1956) Cognitive Taxonomy, a framework that represents a cumulative hierarchy with each category informing the mastery of the next more complex one (Krathwohl, 2002). The *Revised Taxonomy of Educational Objectives* (Anderson, et al., 2001) was used because, through providing a more active form of thinking by the use of verbs

rather than nouns, it was deemed to suit the cohesive building of assessment tasks across the three semesters. This is not to suggest that we classified the tasks themselves at the different levels of the taxonomy but, rather, that the tasks provided the means through which we were able to assess students' increasing levels of knowledge and skills as they progressed through the program. This conceptual model is presented in Figure 1.
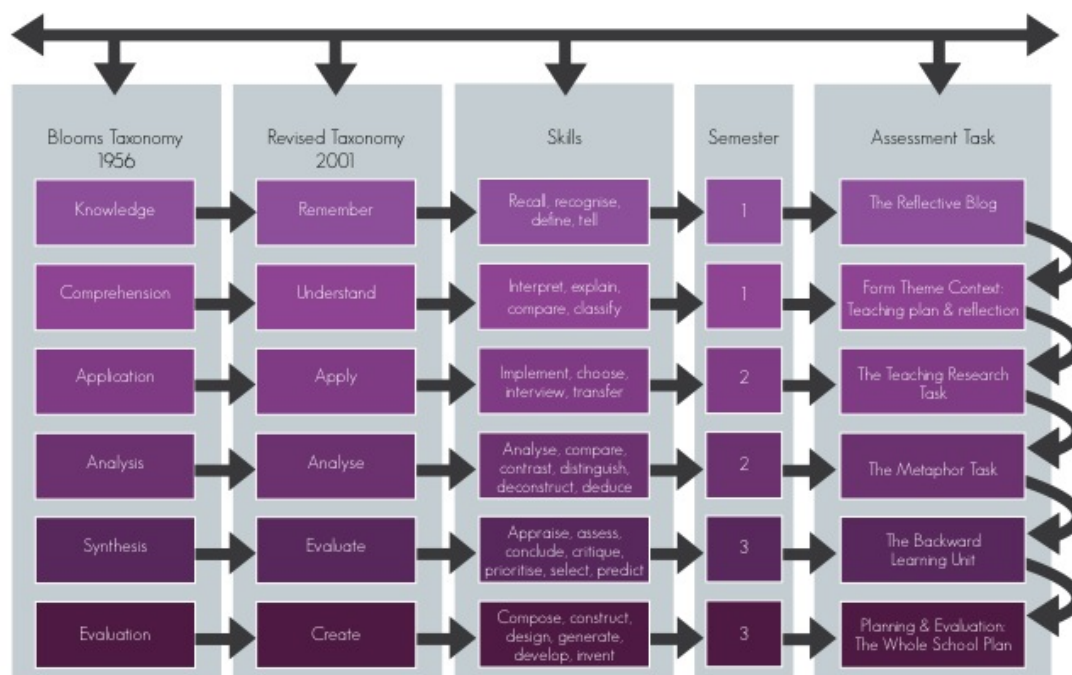

Figure 1: Constructive alignment in assessment in the visual art program

Methods

The qualitative study reported on in this paper took place over two years (2011 and 2012) in an urban Australian university and was framed by the central research question: *What perceptions do pre-service visual art teachers hold of their learning in a fully online learning environment?* The study sample comprised one cohort of students (*n* = 10) studying a visual art pre-service teacher education program in the Faculty of Education's graduate-level entry MTeach. The MTeach is a two-year course and visual art students undertake three discipline-specific units over three of the four course semesters. Due to small cohort numbers, online delivery has been the only mode offered to MTeach visual art students since 2011.

After the study was approved and given ethical clearance (University of Tasmania, 2010), students in the sample were invited by email to participate. Attached to the email were a letter of invitation, an information sheet and an informed consent form. The principal researcher (one of the paper's co-authors) designed, coordinated and taught the program and, therefore, a number of measures were taken in line with the University's ethical protocols (University of Tasmania, 2011) to avoid the risk of bias or perceived coercion. Specifically, the researchers sought to eliminate, or at least minimise, the risk that participants might provide, or feel compelled to provide, positive feedback only and to avoid any negative responses, given that the principal researcher taught them and coordinated their program. Accordingly, a research assistant was employed to collect data, and the key data collection

instruments were not administered until after the program's assessment processes had been finalised (October 2012). Despite these measures, as demonstrated in the findings below, participant responses were overwhelmingly positive, with only very minor suggestions for how the program might have been improved. While welcoming these responses as an affirmation of the program, it must be acknowledged that we were somewhat surprised by the unevenness of this almost unqualified positive feedback, given that no program is perfect. For this reason, in collaboration with the research assistant, we were assiduous in re-examining the data on a number of occasions to ensure the accuracy and validity of our findings and interpretations.

In the first instance, Qualtrics software (Qualtrics Labs, Inc., 2011) was used to generate and distribute an online questionnaire comprising ten questions. In acknowledgement of the importance of giving democratic voice to the participants (hooks [sic], 1994), nine of the questions were open-ended and one question used a five-point Likert scale to gain further understanding into students' beliefs and perceptions. Of the ten students invited to participate, nine (90%) completed the online questionnaire. The data were coded and de-identified by the research assistant who then forwarded them to the research team for analysis.

The second stage of data collection consisted of a semi-structured interview (Cohen, Manion, & Morrison, 2011), designed to provide more in-depth responses to the research question. Students had been invited to participate in an interview at the end of the questionnaire and six (66%) of the nine questionnaire respondents had accepted. The nine interview questions were drawn from the analysis of the questionnaire data (method outlined below) to provide further insight into students' perceptions of their learning in a fully online learning environment. All interviews were conducted by a research assistant, four by phone interview and two face-to-face at a location of their choice (a Faculty meeting room) (see Table 1). Notes taken during interviews included both verbatim and paraphrased recordings of responses while identifying participants by code (e.g., ID01) to ensure anonymity. All data were de-identified prior to analysis, with questionnaire participants having been given a unique identification code from Questionnaire (Q)ID01 to QID09, and interview participants ID01 to ID06. Due to the method of questionnaire distribution, it was not possible to match questionnaire and interview data for the six interviewees.

Participant ID	Gender	Interview type	Duration (minutes)	Participate in future research
ID01	Female	Face-to-Face	60	Yes
ID02	Female	Phone	20	Yes
ID03	Male	Phone	15	Yes
ID04	Female	Phone	15	Yes
ID05	Female	Face-to-Face	40	Yes
ID06	Female	Phone	15	Yes
			Mean = 28 minutes	**100%**

Table 1: Interview participation summary

Data Analysis

Analysis of the data occurred in three phases. First, responses to open-ended questionnaire questions were categorically analysed, a process that involved the three researchers each separately reading through the data to assign both in vivo and abstract codes to significant words, phrases and ideas. As much as possible, vivo codes were used as we were conscious of the need to reflect the original intent of the participants. We then compared and contrasted our individual codes in order to develop broad categories and then identify a number of themes in and between the categories (Coffey & Atkinson, 1996). Analysis of the responses to the Likert-scale (sub-) questions, generated through Qualtrics (Qualtrics Labs, Inc., 2011), resulted in a set of percentage ratings. Second, the same data analysis method used for open-ended questionnaire questions was used on participants' interview responses. During the third phase of analysis, we looked for similarities between the themes generated from the two sets of qualitative data and then again scanned the whole data set to ensure that we had effectively identified commonalities between themes and relationships among these themes (Coffey & Atkinson, 1996).

Despite the interesting findings generated through this research, a number of limitations were inherent in the study. Although every possible measure was taken to ensure objectivity and representation of the study, a limitation, as with all research involving voluntary participation, is the possibility of bias, insofar as participants involved in the interview and/or questionnaire might have presented a more biased view of what they valued from this specific program. Further, the fact that participants provided very few negative comments on the course could be seen to suggest they might have not felt entitled to provide this kind of feedback. As outlined above, a number of measures were taken to avoid the risk of bias or perceived coercion, and data were scrutinised to ensure the fullness and authenticity of the findings. Another limitation was that the interview sample cannot be representative of all online students within the Faculty and objectivity may have been impeded by one of the researcher's familiarity with the research sample. A further limitation was the sample size. This was unavoidable as the numbers within Arts areas in pre-service teacher education courses at the University have always been low in comparison to other disciplines.

Findings and Discussion

Key Findings

Analysis of the questionnaire and interview data in response to the research question indicated a high level of student support for the assessment in the targeted visual art program, represented in comments such as: "[the] assessments … pushed us to new understandings" (QID01), "[new concepts] were integrated into some assessment tasks" (QID03), and "the assessment tasks were generally very authentic" (ID02). Participants reported the tasks to be authentic and relevant for their future teaching, as well as helpful for focusing their thinking and planning throughout their study. Significantly, the majority of participants (e.g., eight of nine in the questionnaire data) reported feeling tentative at first about undertaking online learning in the visual art program, for reasons including the following:

- a perceived lack of experience or skill in online learning technology, e.g., "I had not done any learning online [before]" (QID03)

- a preference for face-to-face teaching and learning in general; "I learn better face to face" (QID06)
- uncertainty about online learning for a "practically-based" program such as visual arts; "I didn't know the course content so was worried it would be difficult to translate online" (QID02)

By the end of the final unit, however, most (six of nine) reported that they were no longer tentative:

> I can see how it works now. … overall the learning I've done online has been rich and engaging (QID03)

> The online visual art unit was a perfect example of how to get online teaching and learning right! (QID07)

One participant commented that it was difficult to answer this question because he/she remained tentative about online learning, but suggested that this particular online course was run in such a way as to facilitate learning:

> This was a difficult question to answer. In some ways I am still tentative about the online environment because I have experienced online classes in which I have received little support and have done the learning required in solitude. However, the way that this particular course was run eliminated the issues that occurred in other classes. (QID09)

A point of interest in these data is the extent to which (a) the assessment tasks themselves engendered a high level of student support and (b) the regular feedback from the online instructors factored in creating the reported positive responses for the assessment in the targeted visual art program. In considering the full data set, it would seem that both factors (the nature of the tasks and the feedback provided) were significant, although arguably to different degrees for individual students. There is scope for further inquiry into this area.

Three broad themes were generated through data analysis, namely, collaborative learning and teaching, the nature, structure and sequence of tasks, and workplace readiness. The themes and their categories are presented in Table 2.

Theme	Categories
Collaborative learning & teaching	- Feedback - Interaction with others - Self-reflection
Nature, structure & sequence of tasks	- Sequential tasks - Structure & focus - Scaffolded learning
Workplace readiness	- Practical application - Creativity - Scholarly field-related research

Table 2: Key findings

In relation to the specific tasks, participants were asked to rate the level of impact they believed each one had on their evolving teacher identity and pedagogy, using a scale from 1 (very low impact) to 5 (very high impact), as shown in Figure 2. All tasks were rated moderate to very high, except for the Form+Theme+Context task, which two questionnaire participants (22%) rated as having a "low" impact on their evolving teacher identity and pedagogy. The tasks that were most highly valued by the participants were the Backward Learning Plan, and the Whole School Plan.
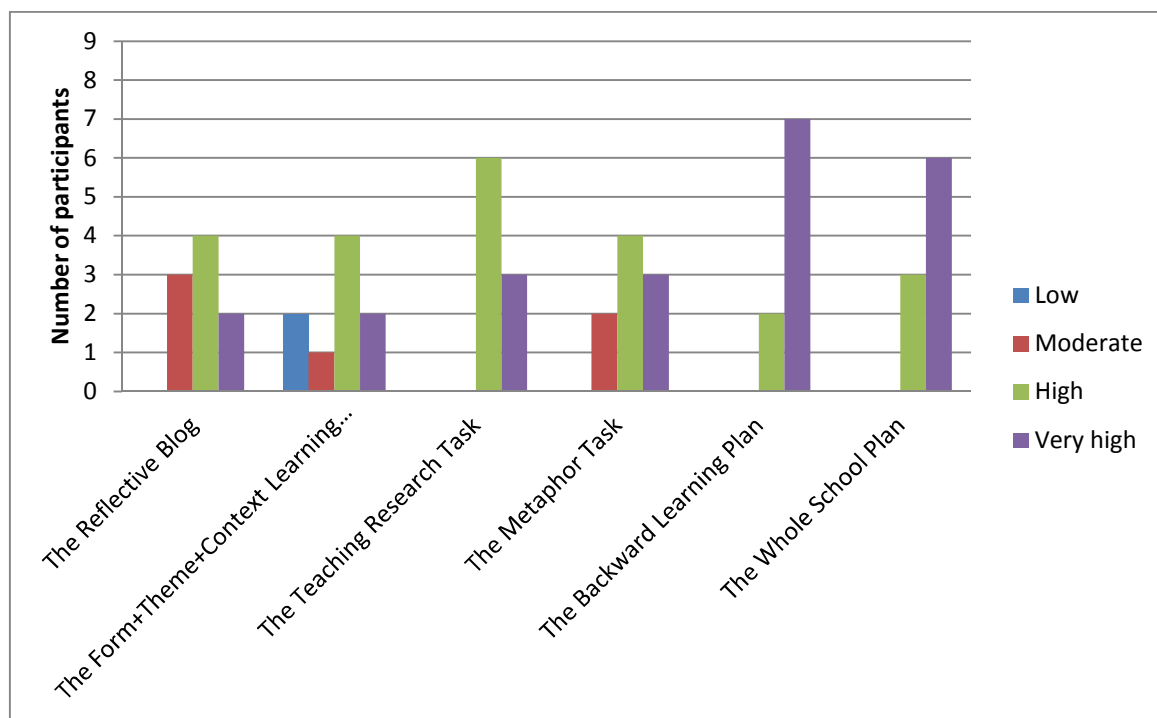

Figure 2: Level of impact on evolving teacher identity and pedagogy ($n = 9$)

Criticism of the Form+Theme+Context task related to its lack of alignment with teaching and learning tasks in other MTeach units.

Specific Findings

In this section, we discuss the three broad themes associated with assessment that were generated through this study.

1. Collaborative Learning and Teaching

Gewerc, et al. (2014) identify a number of potential benefits to higher education students who learn in collaboration with others. Through collaborative learning and teaching approaches, students "are encouraged to explore their interests while transcending the limit of formal learning to appreciate the value of informal learning spaces" (Gewerc, et al., 2014, Introduction section, para 2). Their capacity as self-regulated and independent learners can be enhanced and their influence on the learning of each other can be mutually empowering. Further, collaborative learning fosters initiative and self-reflection (Gewerc, et al., 2014). The "informal learning spaces" created through the assessment program reported in this paper

were all in the online environment, which arguably involves a level of complexity not necessarily present in more traditional face-to-face learning environments (Al-Sharhan & Al-Hunaiyyan, 2012; Ross, et al., 2013). Nonetheless, the types of benefits associated with collaborative learning, as reported by Gewerc, et al., (2014) and many others (see, e.g., Cavanagh & Garvey, 2012; Herrington, Oliver, & Reeves, 2003; Norton, Sonnemann, & Cherastidtham, 2013), were evident in the findings of this study.

Specifically, a number of participants noted that their interaction with others enabled them to gain a deeper understanding around key concepts, as exemplified by the following comments:

> The assessment task in semester one 2012 when we interviewed our peers and teachers was really helpful to highlight how important it is to listen and learn from others because we can learn a great deal and receive insights that may have otherwise eluded us. (QID02)

> These visual arts units have supported me as an evolving teacher in a number of ways. Firstly, the discussions that have taken place have extended and questioned my own thinking, and opened me up to different and unique ways of seeing. This has forced me to question my own practices and enabled personal and professional growth. It has also forced me to become more confident and well thought through with my own pedagogy. (QID09)

The regular feedback from the lecturer/tutor and from fellow students helped facilitate learning by allowing participants to respond to, progress and modify their ideas throughout the three semesters. For example, ID02 commented that online journaling "really helped you get feedback" and that "The feedback process is really important." Similarly, ID03 suggested that "Journaling of our responses and progression of ideas I think is a good attribute for the units." The online assessment tasks were purposefully designed to allow for ongoing feedback prior to and after completion of the set tasks, as observed by the following student:

> I thought that it would be isolating and lonely, in that I would have a task "issued" online, and I would simply complete it without support. Now I think that there are ways of constructing assessment tasks so that they are integrated into weekly work. So you have help and feedback as you complete the task. (QID03)

These responses reinforce the strongly-held view that the provision of timely and purposeful feedback is crucial to student motivation, engagement and learning (Hattie & Timperley, 2007; Wiliam, 2012), including and perhaps particularly in the online environment where learners can feel isolated and disengaged (Mokoena, 2013). Several respondents were more tentative about the ways in which they engaged in the course, as exemplified by these comments:

> I still think that a stronger connection is made face to face. (QID05)

> Whilst the pedagogical elements are fantastic, I feel we would have benefited from a number of professional development sessions to up our art-making skills. (QID07)

The issues identified by these students about personal connection and pedagogical delivery have commonly been reported in the literature as (potentially) problematic in the online learning environment (see, e.g., Guri-Rosenblit, 2005).

Participants also noted ways in which collaborative learning in the program encouraged them to be reflective learners. For example, ID01 commented:

> [It] helped by forcing you to self-reflect and [have] deeper thinking about how to approach and teach in classrooms and manage your skills.

Similarly, ID04 mentioned:

> There was a lot of reflective practice in the [collaborative] assessment tasks. I was able to look a bit deeper at the kind of art teacher I thought I was going to be and the kind of art teacher I wanted to be. Inward looking. Reflective practice. I really, really enjoyed it.

Participants also valued having had the opportunity to reflect together on their own professional development as visual art pre-service teachers:

> [With the metaphor task] you get a chance to really reflect on yourself and where you want to go and I have used that in my teaching. (ID06)

> The units seemed to follow a pattern that I think will be helpful to reflect on once I get a job. Planning units of work followed by planning whole years of work is a good example. (QID04)

These two data extracts point to the perceived importance of the nature and sequence of the tasks, which we now discuss.

2. *Nature, Structure and Sequence of Tasks*

As outlined earlier in this paper, the assessment tasks were designed within the University's learning and teaching framework of constructive alignment. As such, they were based on principles of authentic assessment (University of Queensland, 2012), and developed in complexity as student understanding evolved across the three visual art units. Participants provided positive responses to this type of assessment, claiming that it built their knowledge and understanding in a cumulative way. For example, QID05 commented that he/she "really enjoyed the assessments this [final] semester as they really drew together what we have learned across our two years." Similarly, ID05 commented that the sequential manner of the tasks supported his/her "identity, skills" and that "the way [the Unit Coordinator] structured them, it was wonderful." Several mentioned how the tasks challenged them to approach learning in different ways, as evidenced in this comment:

> They were very multi-layered assessment tasks and I found that very challenging but all the different layers meant you have a very rounded development and learning. Very worthwhile and rich tasks. I really liked the whole year plan. … It was a holistic way of learning –

> slotting in all the things you learned throughout the course and putting
> them into a learning plan. (ID02)

Most (four of six) interviewees also suggested that the assessment tasks facilitated their learning by providing structure and focus. This was particularly true of online journaling in which participants were required to record their thoughts and ideas throughout the semester. ID02 noted that this "forced me to be more structured, which was great. It was more productive." ID06 supported this notion, commenting that online journaling "probably made me … stay on track with my learning". Similarly, ID05 commented:

> [Online journaling] sort of locked you into a time frame for a start.
> You had to do something weekly. It held you down to a date.
> Sometimes you need a bit of structure.

In addition to providing these types of responses about the organisation of task work, participants also commented on ways in which the developing complexity of assessment assisted their learning; for example:

> I can see that if you examine the [Form+Theme+Context] assessment task
> it was scaffolding for the work we would undertake the following semester.
> (QID05)

> I see myself as far more confident now than I was at the beginning of the
> course. … I do feel that I have the tools to … cope with the first year of
> teaching. The assessment tasks were scaffolded to provide simple paths to
> follow, and the journals were helpful to clarify thoughts without having to
> write too formally. (QID02)

Thus, it can be argued that, in the view of participants, the nature, structure and sequence of assessment tasks, conceptualised through the lens of Bloom's (1956) Cognitive Taxonomy, went some way in engendering in learners the deep learning associated with constructively aligned courses. Wang, Su, Cheung, Wong, and Kwong (2013) make the claim that "students in more 'constructively aligned courses' [are] more likely to adopt deep learning approaches and less likely to use surface learning approaches in their study of a particular course" (p. 477), and there is evidence of this occurring here. The learning environment seemed to foster the type of student engagement that Norton, et al. (2013), among others, argue to be integral to effective educational practice in higher education, and to assist in preparing students for the workplace, a theme in the data to which we now turn.

3. *Workplace Readiness*

An emphasis on preparing students for the workplace has long been prevalent in tertiary "front-end loading" degrees (Allen, 2011; Allen & Sinclair, 2011; Neville, Sherman, & Cohen, 2005) and this is nowhere more the case than in pre-service teaching, which, particularly since its professionalisation in the 1960s, has struggled to effectively enable the integration of theory and practice (Hartsuyker, 2007; Zeichner, 2010). Nevertheless, teacher accreditation authorities, in Australia and internationally (e.g., Australian Institute for Teaching and School Leadership, 2011a; National Council for Accreditation of Teacher Education, 2008) increasingly require demonstrable evidence that graduates have the

requisite knowledge and skills to begin teaching as soon as they enter the workplace. Patrick, Peach, and Pocknee (2008) define work-ready graduates as those with "a combination of content knowledge and employability skills, such as communication, team work and problem solving, which enables effective professional practice" (p. iv). Tasks in this visual art program were created to help inculcate such knowledge and skills in students. Participant responses indicate that this was deemed to have been accomplished.

Being able to apply the assessment tasks in a real classroom situation appealed to the participants. They saw the tasks as meaningful, authentic, and useful; for example, ID02 commented, "The assessment tasks were generally very authentic. Really helpful. I could see the value in the developing of the skills in each task." ID03 reported that the "Proactive assignments prepared us for today's classroom," a view supported by ID06 who commented that in the visual art assessment:

> I didn't feel that I couldn't see the reason for doing this. They were really useful. We can actually use them in the classroom. … I can see they have a purpose in the end.

The task that stood out most in terms of practical application was the Backward Learning Plan. For example, ID01 commented that the task was a "really amazing task … I loved that assignment and I'm keeping it and will use it in my teaching. It was real." This notion of "real life" application of coursework has been repeatedly shown to be a primary concern of those in pre-service in terms of promoting their engagement and learning (Patrick, et al., 2008), and is further evinced in this study in comments such as:

> I found [the Backward Learning Plan] extremely relevant. We had to know the content and understand how a timetable would work. We had to develop learning strategies, understand skill development, how to engage students. This task was extremely relevant for prospective employment. (ID03)

> The whole school plan assessment task … took me from thinking as a practicing teacher, to thinking about teaching in a more authentic way. … This assessment task forced me to think wider and consider the sequencing of units to best develop students' abilities and knowledge. … As a culminating task I felt it prepared me more as an emerging teacher by providing me with conundrums that I will encounter throughout my time as a teacher. (QID09)

As novitiate visual art teachers, participants also valued, on the one hand, ways in which the assessment tasks encouraged them to be creative:

> Academic writing is dry and boring. I'm more creative and narrative. [Online journaling] gave you the opportunity to be yourself as well. (ID01)

> The story telling element, creativity, it evolved over time, it had a lot of elements to it – journal, visual, writing a task. So that metaphor task stood out. (ID04)

On the other hand, they saw merit and value in the scholarly research that they were required to undertake, insofar as it prepared them for the realities of teaching. Comments like these are representative:

> Once you got the readings you could dig a little more. … The readings and the lectures were always relevant and evolving with today's classrooms. (ID03)

> The many readings and resources were sources of inspiration. The one that has stuck fast to me is Sandell's Form+Theme+Context=ART. … It's just a really simple accessible formula for students to follow when looking at art work... Sandel's formula is … straightforward and meaningful. (QID02)

Such participant endorsements of their preparation for the workplace can be considered salutary, particularly in light of the additional levels of complexity associated with teaching models and pedagogies in the online environment (Ross, et al., 2013).

Conclusion

The aim of this paper was to provide insight into how one cohort of pre-service visual art teachers perceived their assessment in an online learning environment to facilitate their learning and foster their professional growth. While much has been reported in a range of areas of assessment practices in higher education, there is as yet a limited research base that describes how online students, particularly in the Arts, view the effectiveness of ways in which they are assessed. Findings generated through analysis of questionnaire and interview data collected in the study reported on above indicate strong participant support for the suite of online assessment tasks embedded in their visual art program.

Designed within the host University's learning and teaching framework of constructive alignment, tasks were intended to provide students with authentic and transformative experiences that challenged their thinking and effectively prepared them for their future work with a diversity of learners in the secondary school context. While this might appear an ambitious undertaking, it was a case, in this particular instance, of either generating a new approach to the delivery of pre-service visual art or falling into obsolescence. With typically low numbers in the program (ten in this study's cohort sample), an on-campus delivery model was deemed unsustainable in the long term and, since 2011, students have only had the option of studying online. As noted above, that this inaugural cohort of fully online learners responded so positively to their prescribed assessment tasks can be seen as quite salutary.

Three key reasons were identified in the data to explain the positive views that participants held a propos of their assessment. First, they believed their learning to be facilitated through the collaborative learning and teaching approach to assessment, including the facility to interact regularly with others, the provision of feedback from staff and peers, and a focus on self-reflection. Second, participants were supportive of the nature, structure and sequencing of tasks in terms of how this helped them engage in deeper levels of engagement and learning. Third, they valued the "real life" nature of the assessment, claiming that the tasks, supported through scholarly research, had a practical application and fostered creative practice.

Whether this kind of endorsement for assessment will be iterated by current and future cohorts of online visual art pre-service teachers remains to be seen. In the interim, the positive lessons learned from this study are being used to focus the revised iterations of a range of Arts programs within the University's teacher preparation courses. We hope that they will also serve other teacher educators facing the same sort of challenges and possibilities that we face in the creation of online assessment in pre-service teacher education, now and increasingly in the future.

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Appendix A. Summative Assessment Tasks in the Visual Art Program

Name of task	Brief description
Reflective Blog	A reflective blog containing a synopsis of art practice/ development and influences, a story of practice from school experience, and a discussion on the place of art history in the secondary curriculum.
Form+Theme+Context: Teaching Plan and Reflection	Analysis of a chosen piece of art through the lens of Form+Theme+Context followed by: a narrative teaching plan and discussion on how the information, determined through the analysis, could be used in the secondary art classroom; and a reflective statement on the importance of art history drawing on curriculum documents and relevant literature.
Teaching Research Task	An in-depth exploration of a topic relevant to the senior secondary curriculum; topic researched through multiple viewpoints, the literature, peers and a professional from visual art field. Final presentation of an essay highlighting an analysis of key themes with a reflective statement that highlights personal viewpoints alongside critical reflection on the personal learning process.
Metaphor Task	Design and creation of a visual metaphor of the personal secondary art teacher identity. Documentation of the process of creation and embedded global themes through the use of an online journal. Transformation of the experience to a curriculum story of practice and reflective statement that makes clear links to Australian Institute for Teaching and School Leadership (AITSL) Professional Standards for Graduate Teachers 2.1 and 6.4 (AITSL, 2011b).
Backward Learning Plan	Design and creation of unit of work with three clear stages. Rationale identifying topic goals, inquiry question and curriculum expectations for Year 7/8 visual art classroom, and assessment aligned with the goals and curriculum expectations; teaching strategies and resources and an explanation of how they support the unit. An online journal was created that documented the process.
Whole School Plan: Planning and Evaluation Task	Design of an overview of the art program for Year 7/8, with unit names, time frames, type of assessment and a brief summary. The backward learning fitted cohesively within the plan. The plan was supported by an explanation of how the plan was an inclusive, well balanced and diverse sequence of 2D and 3D tasks with reasons for the specific sequence supported by current art education literature and the curriculum.