

## Students' Appropriation, Rejection and Perceptions of Creativity in Reflective Journals

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This paper explores the intersection of reflection, journal writing and creativity. Undergraduate students who participated in a residential field camp were required to keep a creative reflective journal to demonstrate their theoretical and practical understandings of their experience. This study reports on the content analysis of 42 student journals and interviews with eight students that explored if and how an invitation to be creative in a reflective journaling assignment was appropriated or rejected (as evidenced by the content analysis) and experienced (as evidenced by the interviews) by students. Content analysis revealed that 14% of journals contained no creativity, 50% had basic levels of creativity, 31% had moderate levels and 5% had high levels. Interviews were analyzed using themes of relevance, ownership, control and innovation and provided insight into reasons why students did and did not use creativity to support their journals. In the discussion, the concepts of deep and surface approaches to learning provide some insightful explanation as to why students were creative in their reflective journal. This paper concludes by providing several support strategies to help students enhance their skills related to reflection, journal writing and creativity.

### Introduction

There has been considerable discourse in the literature regarding the development of higher order critical thinking skills and reflective practice in students across a number of disciplines. Since Schön (1983) brought reflective practice to the forefront of higher education pedagogy with his seminal work, *The Reflective Practitioner: How Professionals Think in Action*, a variety of instructional methods have been employed with students to build these skills including reflective journals, individual and group narratives, portfolios, and more recently, the use of Web 2.0 technologies such as wikis, blogs and other forms of social media (Franklin & van Harmelen, 2007; Hemmi, Bayne, & Land, 2009). In the last three decades, reflective journals, one of the more established methods of encouraging the development of critical thinking skills and reflective practice, have received substantial attention in the literature.

Despite critical reflection being embraced across so many discipline areas in higher education, there have been a surprising number of mixed reports as to the quality of reflection displayed by students. A notable number of studies have found that a majority of students display low levels of critical thinking or reflective thought (Dymont & O'Connell, 2011; O'Connell & Dymont, 2011). Researchers propose a variety of reasons for this, including ill-structured assignments (Thorpe, 2004), a lack of ability to be reflective (Coulson & Harvey, 2012; Ryan, 2013; Smith, 2011; Thompson & Pascal, 2012), lack of time for both students and educators, negative opinions of reflective assignments (Shor, 1992), issues of trust and ethics (Epp, 2008; Ghaye, 2011), and the tension of assigning marks to subjective interpretation of experiences (Crème, 2005).

With a view to enhancing the experience of reflection through the use of journals, educators have provided training to students on reflection (Coulson & Harvey, 2012; Ryan, 2013; Smith, 2011; Thompson & Pascal, 2012) and journal writing (Moon, 2006; O'Connell & Dymont, 2013). Training in these realms has been shown to support students by allowing them to understand the theoretical underpinnings of reflective journals, by clarifying expectations, by offering exemplars and by encouraging creativity in reflective journals.

This paper reports on a research project that sought to explore the intersection of reflection, journal writing and creativity. Undergraduate students who participated in a residential field camp were required to keep a creative reflective journal to demonstrate their theoretical and practical understandings of their experience. This study reports on the content analysis of 42 student journals and interviews with eight students. It explores if and how an invitation to be creative in a reflective journaling assignment was appropriated or rejected (as evidenced by the content analysis) and experienced (as evidenced by the interviews) by students.

### Literature Review

In this literature review, we begin with an overview of some of the key literatures related to *reflective journals* before turning to the literature related to *creativity*. We then point to the intersection between these two areas of literature by exploring *creative reflective journaling*.

### Reflective Journals

John Dewey (1933) is credited with suggesting that reflection is an important component of learning and

theorized that reflection is necessary to incorporate experiences into an existing framework of knowledge, while taking into consideration a learner's life experience as well as present observations. Dewey (1933) defined reflection as, "... active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusion to which it tends" (p. 9).

In many higher education settings, there is a substantial focus on helping students develop higher order critical thinking skills to examine the core theories and concepts related to their program of study or academic discipline (Thorpe, 2004). Across a range of discipline areas, including nursing (Epp, 2008), physiotherapy (Wessel & Larin, 2006), teacher education (Hatton & Smith, 1995), music education, physical education (Tsangaridou & O'Sullivan, 1994), design/architecture and medicine (Boenink, Oderwald, De Jonge, Van Tilburg, & Smal, 2004), reflection is encouraged to help students take ownership of their knowledge and make connections between the theory and practice of their studies. Reflection occurs through any number of metacognitive activities designed to promote reflection, or the process of understanding experiences in relation to one's beliefs, values and existing knowledge (Boud, 2001; Colley, Bilics, & Lerch, 2012).

In higher education, educators encourage reflection through a range of approaches and techniques, including portfolios, reflective journals, online discussion groups, tutorials and formal academic papers (Ghaye, 2011). The focus on this paper is on one such approach: reflective journals.

Reflective journals can take many forms, from comprehensive, detailed application of experiences to theories and concepts to descriptive accounts of events and activities (O'Connell & Dymont, 2013). Reflective journals allow students to situate their learning experiences through comparing and contrasting their observations, their feelings and their understandings with their existing knowledge, values and beliefs and considering how this process can be applied to their future lives as professionals (Minott, 2008). Students can use journals to help them make sense of their practice through reflecting on context, values, improvement, and practice (Ghaye, 2011). They may also be used by students to reflect "in-action," "on-practice," "for-action," and "with action" (Ghaye, 2011). Ultimately, they allow students to experience "connected learning" in which they can critically analyze knowledge, skills and dispositions in different contexts (Connor-Greene, 2000).

With a view to understanding the level and quality of reflection in students' reflective journals, a number of frameworks have been used. Examples include Bloom's Taxonomy of Higher Order Thinking (1956),

Valli's (1997) typology of reflection, Merizow and Associates' model (Merizow & Associates, 1990), and Hatton and Smith's (1995) framework, among others. While the number of levels and intricacies of specific types of reflection differ from model to model, there is general agreement that the most basic levels of critical thinking are primarily descriptive, and the higher (more complex) levels of thinking are critical in nature, analytical, and considerate of multiple perspectives based on theory and practice (Dymont & O'Connell, 2011). The ultimate hope is that journals will reflect at deeply critical levels, allowing students to experience a transformation of perspectives, to have changes in behavior, and to appropriate knowledge as their own (Wong, Kember, Chung, & Yan, 1995).

### **Creativity in Education**

Within the last decade, there has been an "unprecedented resurgence" of interest in the field of creativity in education, as evidenced by an array of initiatives, scholarly conversations, special journal editions, conferences and events (Burnard, 2006, p. 313). The creativity agenda in international education circles can be found in academic literatures, policy contexts and curriculum documents. A number of landmark publications in the field of creative learning have significantly advanced the creativity agenda in recent years (e.g., Baer & Kaufman, 2012; Harris, 2014). Although there remains considerable debate around some aspects of the creativity agenda (e.g., defining creativity, whether or not it can be acquired, value of it, how it is learned) (Baer & Kaufman, 2012; Craft & Jeffrey, 2008; Jeffrey, 2006; Harris, 2014; McWilliam & Haukka, 2008), it is generally agreed that creativity has an important role to play beyond the learning areas that are traditionally thought of as being "creative," such as music, art and drama (Harris, 2014). The importance of creativity in both formal and informal education sectors across a range of ages of learners (from early years through higher education) has been acknowledged (Burnard, 2006; Byrge & Hansen, 2013; Orlando, 2012).

More recently, convincing arguments have been made that creative capacity is actually an observable and valuable component of social and economic systems (McWilliam & Haukka, 2008; Orlando, 2012). Seen from this perspective, creativity is "not a transient fad," but rather it has "an explicit role in the economy...therefore constitutes a fundamentally political imperative" (Burnard, 2006, p. 313), and is not new to higher education, faculty or students (Livingston, 2010). The implications of this perspective cannot be overlooked within education circles; indeed, it has been argued that "creativity is not garnish to the roast of industry or education...educators cannot ignore

the importance of developing a disposition to creativity in young people” (McWilliam & Haukka, 2008, p. 651), and the literature suggests that institutions of higher education can play an important role in this process (Hunter, Baker, & Nailon, 2014; Vance, 2007; Wince-Smith, 2006). Creativity is now moving from the margins of education systems to the center as its importance as a contemporary “capacity” is increasingly being demonstrated (Harris, 2014). Within the higher education context, important questions begin to be explored such as: (how) can university educators teach creatively and teach *for* creativity? Also, (how) will students embrace creative learning opportunities? In fact, fostering creativity has been cited as being a central focus in recent educational reforms (Yeh & Wu, 2006).

In response to these questions, researchers have explored the various impacts of courses, curricula and workshops designed to enhance student creativity and found positive results. For example, Byrge and Hansen (2013) implemented and evaluated a course that included both creative pedagogical approaches and training in being creative. Additionally, the course exposed students to theories explaining creativity. The researchers reported statistically significant gains in 8 of 9 domains of creativity measured. Similarly, in a quasi-experimental study of the use of weblogs with education students, Auttawutikul, Wiwitkunkasem, and Smith (2014) reported a clear increase in levels of creativity in the experimental group (which used weblogs) and the control group (which didn't). Among other reasons for these increases, they suggested that weblogs allowed students to use others' posts as a springboard for more creative responses and provided a unique forum for expression not bounded by traditional classroom structures. Finally, Wu, Hwang, Kuo, and Huang (2013) found that students using mind-mapping techniques with both mobile devices and computers enhanced the creativity of students more so than students taught in a traditional fashion. By and large, research indicates that creativity can be developed through appropriately designed learning activities.

A number of reference disciplines and theorists have been drawn upon to make sense of the creativity agenda in education (Hunter et al., 2014). Hunter, Baker and Nailon (2014) propose that the three most “influential approaches in the educational studies” (p. 77) are: Guilford's (1950) research that stems from a cognitive psychology perspective, whereby creativity is seen as a divergent rather than convergent production of knowledge; Sternberg's (2012) investment theory, which proposes there are six resources of the creative individual; and Gardner's (1993) multiple intelligence theory that postulates that creativity plays an important role in understanding learners and learning styles.

For the purposes of this paper, we draw on the work of Woods (2002), who offers an additional

framework for understanding and conceptualizing creativity. In regards to the teaching and learning of creativity, Woods (2002) proposes four characteristics—relevance, ownership, control and innovation—that he contends are important conditions for creativity to be enhanced. These four characteristics are used throughout this paper as a theoretical lens through which to analyse the results and present the discussion. The Woods framework has been selected because we believe it does a fine job of bringing together, in a simple but comprehensive manner, some of the key literatures around conceptualizing conditions for creativity, which was of interest to this research. Brief definitions will now be offered (Woods, 2002):

- Relevance: Learning that is meaningful to the immediate needs and interests of the pupils and group as a whole.
- Ownership of knowledge: The pupil learns for herself – not for the teacher's, examiner's or society's knowledge. Creative learning is internalized and makes a difference to the pupil's self.
- Control of learning processes: The pupil is self-motivated, not governed by extrinsic factors or purely task oriented exercises
- Innovation: Something new is created. A major change has taken place – a new skill mastered, new insight gained, new understanding realized, new meaningful knowledge acquired. A radical shift is indicated, as opposed to more gradual, cumulative learning, with which it is complementary.

### **Creativity and Reflective Journals in Higher Education**

Of general interest to this paper is the power and potential of creativity within the higher education sector. When considered in light of the “economic and social capital” argument (see above), creativity and creative capital can be seen as a valuable asset and generic attribute that educators in universities across a range of discipline areas should be working towards encouraging. Our specific focus of this paper is to explore if and how an invitation to be creative in a reflective journal was experienced, adapted, appropriated or rejected by students. It seems that reflective journals stand to be a suitable means for allowing higher education students to learn about, explore and demonstrate the concepts of creativity. Although the role of creativity has been explored somewhat in the literature related to reflective journals, more remains to be understood (O'Connell & Dymont, 2011, 2013).

Bridging the creativity agenda with the higher education agenda does not come without challenges.

There are a number of tensions, dilemmas and contextual factors that are clearly at play. At a starting point, there is the dilemma of how creativity can align with the culture of accountability, economic constraint and performativity and other neo-liberal discourses that pervade the higher education system (Craft & Jeffrey, 2008). A second important tension to note is that the academic orientation and commitment of contemporary students is so varied and different than what it used to be (Biggs & Tang, 2011). Many students are juggling their higher education studies alongside a range of other commitments and are seen to use "surface" approaches to learning as opposed to "deep" approaches to learning. How will surface learners appropriate creativity? Will they just see it as an "add-on" and fail to understand the economic and social capitals it stands to afford? How will they respond to the characteristics (relevance, ownership, control and innovation) suggested by Woods (2002) to enhance teaching and learning for creativity? This paper explores these and other questions.

### **Methodology**

#### **Sample and Context**

Forty two post-secondary students from a teacher education program in Australia volunteered to participate in the study. All students involved were enrolled in a first year introductory course in outdoor learning and participated in a residential weekend field experience that required them to partake in a series of lessons such as a high and low challenge course, sustainability education, art, storytelling, environmental education, leadership and problem solving. The weekend was designed with pedagogical intent to embody the creativity literature that points to the importance of having creative learning environments that afford creative teaching and learning opportunities (Jeffrey, 2006). For example, lessons in which students participated were experientially focused and combined content such as history and storytelling, place-based pedagogy and the arts, and problem solving through active participation in large scale activities focused on resolving issues, making decisions, and generating creative solutions to unique challenges and questions. It was the intent of the weekend residential program to be seen as a real, critical and strategic event that allowed for creative experiences for students. Students were encouraged to fully engage in the creative approaches in order to experience alternative pedagogies in creative learning environments.

#### **Creative Reflective Journal**

All students enrolled in the course were required to complete a creative reflective journal, worth 30% of

their final grade, which required them to reflect on three of the lessons observed during the weekend camp. For each lesson, the students were required to answer three questions: what happened (in enough detail that the activity could be replicated), so what (what are the implications for you as a teacher educator?) and now what (how might you use this lesson/activity and adapt it given your professional context?).

#### **Workshop**

With a view to supporting the students to complete their creative reflective journal, all students participated in a one-hour training workshop that provided strategies and scaffolding for developing students reflective skills, journal writing skills and creative skills (O'Connell & Dymment, 2013). Specifically, the workshop included a range of activities designed to introduce students to a large variety of ways creativity can be embedded in a journal to support deeper levels of reflection and criticality (e.g., drawing, poetry, story writing, PowerPoint, blogs and audio recordings). The two lecturers giving the workshop provided students with sample journal entries designed to model these creative approaches to journaling and to illustrate how they support deeper reflections. One lecturer provided structure and focus by reviewing the questions to which students were required to respond, while the other lecturer used creative methods (e.g., drawings, dot points, key words) to demonstrate examples of being creative. Students were provided with a number of exemplars of journals that embedded creativity and were shown how the creativity fostered depth of reflection and criticality.

In addition, students worked in groups to produce one sample journal entry that embodied creative techniques to enhance reflection, and the lecturers provided feedback on this work. Several groups worked simultaneously, resulting in a number of highly creative and deeply reflective exemplar entries for different lessons and activities. The workshop concluded with the lecturers focusing on the positive aspects and reasons for encouraging the use of creativity to foster criticality as well as how assessment would occur. In addition, a one page handout of a summary of creative examples was provided along with an academic reading on reflective journal writing.

The workshop drew on the literature in relation to strategies for supporting the development of reflection (Coulson & Harvey, 2012; Ghaye, 2011; Ryan, 2013; Smith, 2011; Thompson & Pascal, 2012) and journal writing (Moon, 2006; O'Connell & Dymment, 2013). In regards to creativity, students were provided with numerous examples and illustrations of creative journal entries including a range of previous student work. While certainly not comprehensive, the list of creative

approaches to journal writing was compiled from numerous sources, including O'Connell and Dymont (2013), Raffan and Barrett (1989), Raffan (1990), Scheider (1994), Walden (1995), and Janesick (1999). The teaching strategies used in the workshop sought to reflect teaching strategies that have been identified as being important in fostering creativity in students (Jeffrey, 2006). The workshop also sought to address concepts around creativity related to imagination, possibility thinking, problem solving, critical analysis and ingenuity.

## Methods

**Content analysis.** Upon submission for assessment, the journal of consenting students were photocopied. All journals were numerically coded, and all identifying information was removed from the copy to ensure confidentiality and anonymity. Our method of content analysis was consistent with other researchers who have also performed content analyses of journals (Burt, 1994; Wallace & Oliver, 2003). A content analysis of each of the 42 journals was conducted by the two lecturers who presented the creative techniques in the workshop outlined above. Using the four-point scale described below, they first discussed each item to come to a consensus on their understanding of how it would be operationalized in their review. Subsequently, each lecturer conducted an individual analysis of five of the same journals. This was followed by a discussion to compare similarities and differences in the ratings that resulted. Inter-rater reliability was satisfactory ( $\alpha = .85$ ). Both reviewers then assessed all the journals' levels of creativity using the four point scale. Assessment was done for each journal, not individual entries in each journal (see Dymont & O'Connell, 2011). The scale included the following points:

- a. No creativity (e.g., simple word processing)
- b. Basic creativity (e.g., photographs or images are included, but these do not add any depth to the reflective writing)
- c. Moderate creativity (e.g., use of creative means to add depth to reflective content)
- d. High (e.g., use of creativity that is crucial to content – without the creative aspect, the content would be lost)

Where any differences in ranking were noted between the reviewers, they would review the journal again together, discuss the reasons behind their ratings, and work until consensus was reached on where it fell on the scale. Demographic information such as gender and program of study was also collected.

**Interviews.** Following the analysis of the journals, eight students were purposefully invited to participate

in follow up interviews. They were purposefully selected with a view to interviewing students who had submitted journals with a range of creativity (none, basic, moderate and high). The eight semi-structured interviews were taped and lasted between 30 and 60 minutes, depending on how much information the student had to offer (O'Leary, 2004; Patton, 2002; Travers, 2010). The interviews consisted of a series of open and closed questions related to issues of creativity, creative teaching and learning, assessing for creativity, relevance, ownership, control and innovation.

The semi-structured interviews were transcribed fully. Following transcription, a thematic coding of the interview data was conducted. Through synthesizing, evaluating, interpreting, categorizing, hypothesizing, comparing and finding patterns in the data (Hatch, 2002), we sought to provide a "plausible account" (Silverman, 2000, p. 823) of experiences of the teacher educators in this study. We coded the qualitative data with codes to develop conceptual themes that allowed us to fully understand the experiences and perceptions of the teacher educators (Cresswell, 2008). Codes used to analyze the interview data included a priori codes sourced from existing literature (Mason, 2002; Travers, 2010). A priori codes used in this study included relevance, control, ownership, innovation and deep and surface approaches to learning. The interview transcriptions were then categorized into the appropriate codes and examined to highlight commonalities and inconsistencies within the participants' responses and were considered alongside the analysis of the literature.

## Results

### Demographics and Content Analysis Results

Forty-two students participated in this study. In terms of gender, 24 (57%) were women, and 18 (43%) were men. Eight students were interviewed (3 male; 5 females). In relation to the coding framework for levels of creativity, the students represented varying levels of creativity: none (2 students), basic (3), moderate (1) and high (2).

The content analysis of the student journals revealed that 14% of journals included no creativity, half (50%) were coded as using basic creativity, and the remaining were coded as having moderate (31%) and high (5%) levels of creativity.

### Woods' (2002) Characteristics of Conditions for Creativity

The interviews were analyzed using Woods' (2002) four conditions for creativity: relevance, ownership, control and innovation. Each of these is now discussed.

**Relevance.** Woods (2002) asserts that creativity can be enhanced if the context for learning is meaningful to the immediate needs and interests of the students and the class as a whole. This emerged as being an important variable in the present study: analysis of the interviews revealed a strong relationship between students' perceptions of the relevance of the university generally and the course of study specifically with their interest in being and willingness to be creative in their reflective journal.

The two students (Amy and Jill) who were interviewed because they had developed highly creative and deeply reflective journals were mature aged students who had made a conscious decision to return to their higher education after some time away. This decision influenced the attention and care they placed on their studies at the university in general. Jill notes, "I'm clear on my reason for being at university. I know what I want to get out of it. I have more direction than most of my peers." Amy agreed, "I'm almost 28...I know exactly why I'm here...and what I want to achieve and get out of my degree...but lots of other students are just here to have fun."

In addition to being clear on why they were at the university, these two mature aged students found the course in outdoor education to be highly relevant. They had purposefully selected it (from other electives) because of the content area of study, and as such it held great relevance for them. Jill notes, "I had a lot of electives to choose from, but I knew I wanted to do this course – I thought it would balance out my program of study and allow me to really investigate a topic of interest."

The enthusiasm of Jill and Amy was not reflected in the other six interviewees who were less enthusiastic, dedicated and engaged with their university studies generally and this course specifically. These interviewees were quick to note that their time at the university was only one part of their lives, and they sought to juggle this alongside work, family and sporting commitments. As such, their interest in, and ability to put lots of time and energy into, their studies generally and the creative reflective journal specifically was very limited. Leo explains,

Students are so busy, some people are working and they just want to make it through things, and get enough done to know they've done a good enough job to succeed, but just enough to get across the line, I guess.

Four of the interviewees who did not engage creatively in their journals did note that the course in outdoor education lacked relevance for them. They had elected to take the course (instead of it being a required course) and explained that they had put the least amount of effort in to pass the course because they

needed to focus more on their non-elective units. Many of the students who had taken this course as an elective were upper year students training to be health and physical education teachers. The course described in this study was actually the only one that fit their timetable, and so level of interest and investment in it was perhaps lower than might be expected in a truly elective course. One such student (a third year HPE student), who submitted a journal with a low level of creativity, thought that his peers were "lazy" in the course and would do anything to just "get them a pass, because they really didn't want to be there."

**Ownership of knowledge.** A second characteristic that Woods (2002) notes as being important for creativity is that students are intrinsically motivated to learn for themselves and are not influenced by external sources, such as teachers, peers or society. Woods suggests that "creative learning is internalized and makes a difference to the pupil's self" (p. 75).

In the interviews with the two students who submitted highly creative journals, the theme of ownership of knowledge emerged strongly. Amy and Jill's personal commitment to both higher education general—and the outdoor education course specifically—translated directly into passion and diligence for the assessment task. Amy notes, "I worked so hard, but I did that purely for me – I wanted to do it, to extend myself." Both mature age students were grateful for the opportunity to be reflective and creative in their journal. Jill notes, "I thought the freedom was very generous, and I welcomed it...I got heaps out of the creative side of the journal...it encouraged my brain to think in different ways." Both interviewees felt the flexibility and freedom ultimately allowed them to personally engage more fully in the content of the task. They could spend more time engaging critically with the issues at hand instead of being concerned about the conventions of page margins, formatting, reference systems and text font. Interestingly, both respondents remarked how as the task became more personal and more creative, the motivation to perform to get high grades shifted, and the task became increasingly internalized.

The interviewees who submitted less creative journals did not describe feeling ownership over this assessment task. Instead, they were interested in just "getting the job done, in the easiest way possible...I really didn't care very much about it" (Melanie). Amy and Jill offered some astute observations as to why their peers chose to submit more conventional assessment tasks that contained low levels of creativity. They pointed to issues of low commitment, motivation and aspiration from their peers. Jill notes that perhaps her peers felt "it involves less commitment, you don't have to think hard...so if they were interested in ticking something off rather than investing in it, it's probably

a quicker and more efficient way to go.” Amy thought that her peers did not care enough to warrant being creative.

**Control of learning processes.** Woods (2002) notes that creativity can be enhanced if students are not governed by extrinsic factors and if the task is not purely a task-oriented exercise. This theme resonated in the analysis of the interviews. The two students who submitted highly creative journals (Jill and Amy) welcomed the opportunity to have control over their learning process. Unlike other assignments, like the typical essays that embraced a “cookie cutter approach,” they welcomed the point of difference represented by the creative journal task. They also realized that taking control of their learning process required them to devote more time and commitment to the project. Jill explains, “It would have been less work for me to just type it up and hand it in...but I just loved being able to do this task and have so much control and input.” Amy agrees about the amount of time involved: “It took me three or four weeks of pretty solid work to put this together,” But they both reported being more than willing to put the time in because the benefits were reciprocated as the learning from the course became more clearly articulated and emergent for them.

While both Amy and Jill welcomed the opportunity to have control with the learning process, they also noted a “giving up of control” as it relates to assessment. They acknowledged feeling somewhat vulnerable submitting their creative journals and how their trust with their educators allowed some of the vulnerability to be settled. Jill explains,

It’s a bit exposing, isn’t it? To take control...to do something creative and critical and put it out there. I felt a certain amount of trust with the assessors that allowed me to be more creative and put myself out there more than I might have.

Both students were very proud of their journals and indicated they hoped to use them well into the future as a resource for their teaching portfolio.

The other interviewees did not associate the invitation to be creative with having a sense of control in their learning. Despite the invitation to embrace a different form of creative representation through the journal, most of the students were frank in their commentary that they were motivated mostly by their grade and would try to do the least amount of work to pass. Elizabeth notes, “It just becomes about the grade...as University students, we are all about the mark...getting the mark to pass...to do just what you need to do to get across the line.” Amy (who submitted a highly creative journal) was quick to explain what really motivated her peers:

I don’t mean to knock them, but most of them are just lazy: they just want to get through...they are only motivated by grades...it’s sad that they don’t care...most did it the night before and didn’t care at all...if people [peers] get passes or credits they are happy.

Closely related, some of the students who did submit moderately creative journals were honest that they only did so “for the teacher.” John (who submitted a moderately creative journal) admits, “Given that creativity was so encouraged through the workshop, I tried to include these ideas because I thought the assessors would be pleased and would in turn give me higher grades.”

**Innovation.** Woods (2002) suggests that the final characteristic of creative teaching and learning is the invitation to create something new. He notes,

Something new is created. A major change has taken place – a new skill mastered, new insight gained, new understanding realized, new meaningful knowledge acquired. A radical shift is indicated, as opposed to more gradual, cumulative learning, with which it is complementary (p. 76).

Amy and Jill’s interviews shed insight into the level of innovation they experienced through the opportunity to submit a creative reflective journal. They made reference to learning new skills, acquiring new insights, gaining new understandings and deepening knowledge through the journal. Amy explains how she can “count on one hand the number of times I’ve been able to be creative and not be bound by traditional word processing of assignments”. Through the creativity, she was able to demonstrate in a deep and meaningful way her understandings of the relationships between the theory and practice by being innovative, experimental and inventive. Through her use of artwork, symbols, poetry and painting in her creative journal, Jill was able to generate and then demonstrate her deep understandings of the power and potential of outdoor and sustainability education.

It appears that Amy and Jill’s peers were unable and/or unwilling to embrace the opportunity to innovate through a reflective journal. These students reported being “dumbed down by the academic conventions” (Melanie) and having lost confidence and ability to be creative. Amir explains that at the University, he just “liked being told what to do...and I kind of freaked out at the choice you gave us.” In general, these students who submitted non-creative journals indicated a preference to (and familiarity with) generating and submitting a traditional essay that they could type up on their computer and add their references. Amir explains, “Everyone is so used to just going straight to the

computer to do their assignments...it is just so much easier that way." John expands as he explains the strategy of writing assessment tasks for all his units:

There are usually 2 assessment tasks for each subject each term, and you are basically getting asked to punch out a 1,500 to 2,000 word essay in the same format for everything we do, so I guess we get used to it. That becomes the way we sort of promote our understanding of the subject. I just didn't know how to do the journal in a creative way because it was so different than anything else other professors ask us to do.

### Discussion

This research sought to explore if and how students would appropriate and embed creativity into their reflective journals. The content analysis revealed that approximately 65% of student journals had no or low levels of creativity and that the remainder had moderate (31%) and high (5%) levels of creativity. In the interviews, Woods' (2002) characteristics of creative teaching and learning (relevance, ownership, control and innovation) were used to explore why students did or did not choose to use creativity to enhance their reflective journals.

Strong patterns emerged in the interviews around levels of creativity appropriated by students in their journals and Woods' characteristics. Students who embraced the invitation to be creative described finding relevance in and ownership over their university studies, the outdoor education course and the assessment task. They welcomed the opportunity to take control of their learning and innovate through the completion of a creative journal. They reported that they relished in the challenge of using creativity to enhance their assignment.

Important points of difference emerged for students who did not submit creative journals: they were clear that the relevance and ownership of their studies (at university generally and in this course specifically) were lacking. These were just one part of their busy lives, and for many, the course simply fit into their timetable. They described little if any interest in owning, taking control of, or being innovative in their journals. For many, they were just happy to do just enough to pass the assignment by putting in the least amount of effort. Word processed essays that lacked any creativity were the dominant (and preferred) format of assessment for these students.

Biggs and Tang's (2011) model of deep and surface approaches to learning resonates closely with the findings above. The interviewees who submitted highly creative journals demonstrated qualities of the *deep approach* to learning. They engaged meaningfully

with their university studies and believed that the content matter was important enough to take seriously. They were innately curious and intrinsically motivated. Biggs and Tang (2011) suggest that when deep learners feel a "need-to-know, they automatically try to focus on underlying meanings, on main ideas, themes, principles or successful application" (2007, p. 24). These qualities certainly emerged for both Jill and Amy, who submitted deeply reflective journals.

Many of the interviewees in this study who submitted less creative journals embodied what Biggs and Tang (2011) would call *surface approaches* to learning. Biggs and Tang (2011) assert that surface learners learn only enough to just pass an assessment task and fulfill the minimum requirements of their higher education. They seek to "cut corners" to use the lowest level of cognitive application to "get by." This certainly resonates in this study with many students admitting that their disinterest in being creative stemmed from a "PP equals a degree" philosophy (for readers not familiar with this expression, it refers to the notion that a mere pass [PP, or 50%] will allow students to graduate with a degree). Biggs and Tang (2011) note that contextual factors of a student's life (e.g., non-academic priorities such as work and family commitments) are strongly linked to these qualities of surface learning, which certainly presented in this study with many interviewees students reporting little time or energy for their studies. Biggs and Tang (2011) describe the qualities often found in assignments of students who use a surface approach to learning: they often regurgitate facts instead of demonstrating deep understanding; they list points instead of craft arguments; they rely heavily on quotations with limited synthesis or analysis; and they fail to go to original sources. The results of this study point to another possible quality that aligns with surface learners: the inability or unwillingness to embed creativity into their learning tasks.

What is critical here is that Biggs and Tang (2011) don't put "blame" on surface learners. In fact, they are rather sympathetic to the numerous contextual factors that compete with their studies. They note that while it may be tempting (and true) to call the surface learners "unmotivated," it is really unhelpful. Rather, they propose that these surface learners are "not responding to the methods that worked [for students of past eras], the likes of whom were sufficiently visible in most classes in the good old days to satisfy us that our teaching did work" (p. 22). According to Biggs and Tang (2011), the challenge for educators in higher education is to teach so that surface learners learn more in the manner of Jill and Amy. They encourage educators to ask: "What else could I be doing that might make them learn more effectively?"



When considered within this research project, Biggs and Tang might ask, “What pedagogical and teaching strategies could have been employed to encourage more students to use creativity as a medium for enhancing their reflective journals?” and, “How might Woods’ characteristics for creativity—relevance, ownership, control and innovation—be fostered more for the students?” This discussion now turns to an exploration of some answers to these questions.

As a starting point, the interview data points to some areas where students might benefit from more training to support their understanding of, and appropriation of, creativity. Students shouldn’t be simply told to reflect in a journal and to use creativity. While students in this study did receive training on how to complete their reflective journal and how to be creative (see methodology section for details of workshop and training), it appears that more training on how to reflect, how to journal, and how to be creative might support students even more.

In regards to reflection, the literature points strongly to the fact that many students simply do not know how to reflect, and, as Coulson and Harvey (2012) note, simply “assigning reflective journals is not...sufficient to effective support learning through experience” (p. 411). By way of evidence, a recent review (Dymont & O’Connell, 2011) identified 11 studies in which student journal entries were categorized in terms of levels of reflection using established frameworks from the literature. They found in almost half of the studies (5 of 11) that students were predominantly reflecting at the lowest levels of the framework used. Further, they found that in 4 of 11 studies students critically thought and reflected at “moderate” levels of reflection. Only 2 studies in their research identified a majority of students as reflecting at high levels of thinking. Given these results, Dymont and O’Connell (2011) assert that students need training and scaffolding to help them become critically reflective. The need for training has been noted elsewhere in the literature (Coulson & Harvey, 2012; Ghaye, 2011; Ryan, 2013; Smith, 2011; Thompson & Pascal, 2012), and it does appear that “reflection can be taught through strategic interventions and careful scaffolding” (Coulson & Harvey, 2012, p. 401). Scaffolding and training can help students understand the various forms, domains, frameworks and models of reflection. Theories and techniques of critical reflection can also be shared with students with a view to helping them become more deeply reflective students.

In addition to being supported to be reflective, students also need support on how to actually use journals as a medium for being reflective (Moon, 2006; O’Connell & Dymont, 2013). The literature points to a number of challenges students have experienced in regards to journal writing (see Dymont & O’Connell,

2010; O’Connell & Dymont, 2011 for a review of challenges): students being handed a blank journal and told to simply “reflect”; students feeling journals are annoying busy work; students feeling “journalled to death”; the desire to simply “write for the grade or the teacher”; the ethical dilemmas of the personal/professional blurring; the challenges of assessment; and the role of technology in journals. These challenges need to be addressed by educators who are assigning reflective journals. Training, scaffolding and formative assessment of journals have been shown to support students’ understanding of, and successful use of, journals as a medium for reflection.

Finally, students need to be supported to be creative in their reflective journals. It has been argued that creativity can be nurtured and developed in the right learning environment; it is not seen to be “simply innate nor are they so vaporous as to be unlearnable” (Burnard, 2006, p. 653). This gives considerable hope that educators in higher education can teach more creatively and invite more creativity from their students. Students need to be encouraged to experiment, investigate and problematize issues in their journals. They need to be encouraged to use alternative forms of representation. The following principles of teaching for creativity can guide educators who want to invite creativity from their students (National Advisory Committee on Creative and Cultural Education (NACCCE), 1999):

1. Encourage students to believe in their creative identity;
2. Identify students’ creative abilities; and,
3. Foster creativity by developing some of the common capacities and sensitivities for creativity such as curiosity, recognizing and becoming more knowledgeable about the creativity processes that foster creativity development and providing opportunities to be creative.

It seems plausible that upskilling students in the realms of reflection, journaling and creativity might go a long way to allowing students to find more of a sense of relevance, control, ownership and innovation in their creative reflective journals. Through such training, students can see the value, importance and opportunities that creative reflective journals have in their higher education studies. They can also learn the skills to allow them to complete such a task.

The suggestions around training need to be considered in light of the realities of the higher education sector. Firstly, these trainings around the three dimensions of creative reflective journals—reflection, journal writing and creativity—will take time (Thompson & Pascal, 2012). Time must also be

considered as it relates to students' development of these skills (O'Connell & Dymont, 2013), as well as the time challenge of assessing such a rich and complex assignment (Elbow, 1997). How this time is "freed up" in an already crowded and compressed higher education sector deserves consideration. Secondly, while it is laudable to suggest that such training might encourage more students to embrace the rich learning opportunities that stand to present from creative reflective journals, it remains unclear if and how the surface learners (Biggs & Tang, 2011) will be open to these ideas. Will such training allow them to find relevance, to take control, to claim ownership, and to innovate through creative reflective journals? Or will the contextual realities of these students prevent them from moving beyond a "PP equals a degree" mentality? More research clearly remains to be done on the relationship between training and students' appropriation, rejection and perceptions of creative reflective journals.

Given the small sample size (42 journals and 8 interviews) and the homogeneity of the student group (one university, one faculty), the limits to generalizing from this study are acknowledged. We also recognize that this study only analyzed a single assignment from students and that perhaps more time, feedback and training would allow them to develop their creative interest and abilities. Despite these limitations, we do believe that this study offers a number of insights into students' perceptions and use of creativity in their reflective journals. We believe many of these insights may be germane to other populations, settings and contexts.

### Conclusion

This paper has reported on a study that sought to understand students' willingness (or not) to appropriate, reject and experience creativity in their reflective journals. Content analysis revealed that only 35% of students used creativity in their journals to enhance their level of reflection. Interviews were analyzed using Woods' (2002) themes of relevance, ownership, control and innovation and provided insight into reasons why students did and did not use creativity to support their journal. In the discussion, Biggs and Tang's (2011) deep and surface approaches to learning provided some insightful explanation as to why students were creative in their reflective journal. Implementing creative approaches to reflective journaling (and other academic assignments) may assist students in overcoming some of the barriers to a deeper approach to learning. Creative assignments may assist in providing a more personal platform for expression or serve as a starting point to contradict stereotypical views students hold about their roles as knowledge consumers instead of knowledge producers. Training in being creative can

also combat the commonly held perception that academic assignments are rigid in their format (i.e., creativity is not allowed) and that instructors don't appreciate creative, innovative approaches to teaching and learning. This is particularly noteworthy as more competitive organizations both within and outside academia have placed importance on hiring creative individuals (Delgado-Téllez & Pérez Raposo, 2011).

There appears to be tension between the "ideal" that has been portrayed in the literature and the "real" in most higher education settings. As a result of this study, several strategies around providing support to students to enhance their skills related to reflection, journal writing and creativity were offered that correspond with suggestions made by others. For example, Byrge and Hansen (2013) recommend enhancing students' creative efforts in two ways. First, they suggest instructors implement an embodied method through which students' capacity for creative thinking is developed and creative behaviors are fostered. Second, they note that a reflective method, involving an understanding of theory and the phenomenon of creativity, is offered to provide students with a platform from which to understand creativity. Importantly, Byrge and Hansen (2013) recognize that the appropriate mix of these approaches to creativity is fluid and has not been adequately researched.

We encourage educators and researchers to do more than accept these inputs and outputs and to critically analyze the "processes" of creativity and reflective practice, particularly because their successful integration can enhance students' learning experiences to a great extent. This is especially important because creativity has been placed at the forefront of the goals and objectives of many higher education institutions and students' success in gaining meaningful employment after university has been increasingly linked to their capacity to be creative, innovative and inventive.

### References

- Auttawutikul, S., Wiwitkunkasem, K., & Smith, D. R. (2014). Use of weblogs to enhance group learning and design creativity amongst students at a Thai university. *Innovations in Education and Teaching International*, 51(4), 378-388. doi:10.1080/14703297.2013.796723
- Baer, J., & Kaufman, J. C. (2012). *Being creative inside and outside the classroom: How to boost your students' creativity and your own*. Rotterdam, The Netherlands: Sense Publishers.
- Biggs, J. B., & Tang, C. (2011). *Teaching for quality learning at university* (4th ed.). Berkshire, England: McGraw-Hill Press.
- Bloom, B. S. (Ed.). (1956). *Taxonomy of educational objectives*. New York, NY: Longmans-Green.

- Boenink, A. D., Oderwald, A. K., De Jonge, P., Van Tilburg, W., & Small, J. A. (2004). Assessing student reflection in medical practice. The development of an observer-rated instrument: Reliability, validity and initial experiences. *Medical Education, 38*, 368-377. doi:10.1046/j.1365-2923.2004.01787.x
- Boud, D. (2001). Using journal writing to enhance reflective practice. In L. M. English & M. A. Gillen (Eds.), *New directions for adult and continuing education: Promoting journal writing in adult education* (Vol. 90, p. 9-17). San Francisco, CA: Jossey-Bass.
- Burnard, P. (2006). Reflecting on the creativity agenda in education. *Cambridge Journal of Education, 36*(3), 313-318. doi:10.1080/03057640600865801
- Byrge, C., & Hansen, S. (2013). Course in new thinking in higher education: Enhancing creativity through the means of training, theory and workshop. *Problems of Education in the 21<sup>st</sup> Century, 51*, 18-31.
- Colley, B. M., Bilics, A. R., & Lerch, C. M. (2012). Reflection: A key component to thinking critically. *The Canadian Journal for the Scholarship of Teaching and Learning, 3*(1), Article 2. Retrieved from [http://ir.lib.uwo.ca/cjsotl\\_rcacea/vol3/iss1/2](http://ir.lib.uwo.ca/cjsotl_rcacea/vol3/iss1/2).
- Connor-Greene, P. A. (2000). Making connections: Evaluating the effectiveness of journal writing in enhancing student learning. *Teaching of Psychology, 27*(1), 44-46. doi:10.1207/S15328023TOP2701\_10
- Coulson, D., & Harvey, M. (2012). Scaffolding student reflection for experience-based learning: a framework. *Teaching in Higher Education, 18*(4), 401-413. doi:10.1080/13562517.2012.752726
- Craft, A., & Jeffrey, B. (2008). Creativity and performativity in teaching and learning: Tensions, dilemmas, constraints, accommodations and synthesis. *British Educational Research Journal, 34*(5), 577-584. doi:10.1080/01411920802223842
- Crème, P. (2005). Should student learning journals be assessed? *Assessment & Evaluation in Higher Education, 30*(3), 287-296. doi:10.1080/02602930500063850
- Cresswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (3rd ed.). Upper Saddle River, NJ: Pearson Education.
- Delgado-Téllez, M., & Pérez Raposo, A. (2011, November). Motivating creativity and cooperation in classroom. *Proceedings of the 4<sup>th</sup> International Conference of Education, Research and Innovations (ICERI 2011)*, 1699-1703.
- Dewey, J. (1933). *How we think*. Boston: D. C. Heath & Company
- Dymont, J. E., & O'Connell, T. S. (2010). The quality of reflection in student journals: A review of limiting and enabling factors. *Innovative Higher Education, 35*(3), 233-244.
- Dymont, J. E., & O'Connell, T. S. (2011). Assessing the quality of reflection in student journals: A review of the research. *Teaching in Higher Education, 16*(1), 81-97. doi:10.1080/13562517.2010.507308
- Elbow, P. (1997). High stakes and low stakes responding in assigning and responding to writing. In M. D. Sorcinelli & P. Elbow (Eds.), *New directions for teaching and learning: Writing to learn: Strategies for assigning and responding to writing in the disciplines* (Vol. 69, p. 5-13). San Francisco, CA: Jossey Bass.
- Epp, S. (2008). The value of reflective journaling in undergraduate nursing education: A literature review. *International Journal of Nursing Studies, 45*(9), 1379-1388. doi:10.1016/j.ijnurstu.2008.01.006
- Franklin, T., & van Harmelen, M. (2007). Web 2.0 for content for learning and teaching in higher education (JISC Report), Retrieved from <http://www.jisc.ac.uk/media/documents/programmes/digitalrepositories/Web2-content-learning-and-teaching.pdf>
- Gardner, H. (1993). *Multiple intelligences: The theory in practice*. New York, NY: Basic Books.
- Ghaye, T. (2011). *Teaching and learning through reflective practice* (2nd ed.). London, UK: Routledge.
- Guildford, J. P. (1950). Creativity. *American Psychologist, 5*(9), 444-454.
- Harris, A. M. (2014). *The creative turn: Toward a new aesthetic imaginery*. Rotterdam, The Netherlands: Sense Publishers.
- Hatch, A. (2002). *Doing qualitative research in education settings*. Albany, NY: State University of New York Press.
- Hatton, N., & Smith, D. (1995). Reflection in teacher education: Towards definition and implementation. *Teaching and Teacher Education, 11*(1), 33-49. doi:10.1016/0742-051X(94)00012-U
- Hemmi, A., Bayne, S., & Land, R. (2009). The appropriation and repurposing of social technologies in higher education. *Journal of Computer Assisted Learning, 25*(1), 19-30. doi:10.1111/j.1365-2729.2008.00306.x
- Hunter, M. A., Baker, W., & Nailon, D. (2014). Generating cultural capital? Impacts of artists-in-residence on teacher professional learning. *Australian Journal of Teacher Education, 39*(6), 75-88.
- Janesick, V. J. (1999). A journal about journal writing as a qualitative research technique: History, issues, and reflections. *Qualitative Inquiry, 5*(4), 505-524. doi:10.1177/107780049900500404
- Jeffrey, B. (2006). Creative teaching and learning: Towards a common discourse and practice.

- Cambridge Journal of Education*, 36(3), 399-414. doi:10.1080/03057640600866015
- Livingston, L. (2010). Teaching creativity in higher education. *Arts Education Policy Review*, 111, 59-62. doi:10.1080/10632910903455884
- Mason, J. (2002). *Qualitative Research* (2nd ed.). London: Sage.
- McWilliam, E., & Haukka, S. (2008). Educating the creative workforce: New directions for twenty-first century schooling. *British Educational Research Journal*, 34(5), 651-666. doi:10.1080/01411920802224204
- Merizow, J., & Associates. (1990). *Fostering Critical Reflection in Adulthood: A Guide to Transformative and Emancipatory Learning*. San Francisco, CA: Jossey-Bass.
- Minott, M. A. (2008). Valli's typology of reflection and the analysis of pre-service teachers' reflective journals. *Australian Journal of Teacher Education*, 33(5), 55-65. doi:10.14221/ajte.2008v33n5.4
- Moon, J. A. (2006). *Learning journals* (2nd ed.). London: Routledge.
- National Advisory Committee on Creative and Cultural Education (NACCCE). (1999). *All our futures: Creativity, culture and education*. London: HMSO.
- O'Connell, T. S., & Dymont, J. E. (2011). The case of reflective journals in higher education: Is the jury still out? *Reflective Practice*, 12(1), 47-59. doi:10.1080/14623943.2011.541093
- O'Connell, T. S., & Dymont, J. E. (2013). *Theory into practice: Unlocking the power and the potential of reflective journals*. Charlotte, NC: Information Age Press.
- O'Leary, Z. (2004). *The essential guide to doing research*. London, UK: Sage Publications.
- Orlando, M. (2012). Fostering creativity in higher education. *Review of Higher Education and Self-Learning*, 5(14), 54-61.
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Raffan, J. (1990). *Entry Points*. Kingston, ON: Outdoor and Experiential Education Unit, Faculty of Education, Queen's University.
- Raffan, J., & Barrett, M. J. (1989). Sharing the path: Reflections on journals from an expedition. *Journal of Experiential Education*, 12(2), 29-36. doi:10.1177/105382598901200206
- Ryan, M. (2013). The pedagogical balancing act: Teaching reflection in higher education. *Teaching in Higher Education*, 18(2), 144-155. doi:10.1080/13562517.2012.694104
- Scheider, P. (1994). *The writer as an Artist*. San Francisco: Jossey-Bass.
- Schön, D. A. (1983). *The reflective practitioner*. New York: Basic Books.
- Shor, I. (1992). *Empowering education: Critical teaching for social change*. Chicago, Illinois: University of Chicago Press.
- Silverman, D. (2000). Analysing talk and text. In N. Denzin & Y. Lincoln (Eds.), *The handbook of qualitative research* (2nd ed., p. 821-833). London, UK: Sage Publications.
- Smith, E. (2011). Teaching critical reflection. *Teaching in Higher Education*, 16(2), 211-223.
- Sternberg, R. J. (2012). The assessment of creativity: An investment-approach. *Creativity Research Journal*, 24(1), 3-12. doi:10.1080/10400419.2012.652925
- Thompson, N., & Pascal, J. (2012). Developing critically reflective practice. *Reflective Practice*, 13(2), 311-325. doi:10.1080/14623943.2012.657795
- Thorpe, K. (2004). Reflective learning journals: From concept to practice. *Reflective Practice*, 5(3), 327-343. doi:10.1080/1462394042000270655
- Travers, M. (2010). Qualitative interviewing methods. In M. Walter (Ed.), *Social research methods* (pp. 287-319). South Melbourne, VIC: Oxford University Press.
- Tsangaridou, N., & O'Sullivan, M. (1994). Using pedagogical reflective strategies to enhance reflection among preservice physical education teachers. *Journal of Teaching in Physical Education*, 14, 13-33.
- Valli, L. (1997). Listening to other voices: A description of teacher reflection in the United States. *Peabody Journal of Education*, 72(1), 67-88. doi:10.1207/s15327930pje7201\_4
- Vance, E. (2007). *Colleges should teach broader skills to prepare students to work force, report says*. Retrieved 20 June, 2014 from <http://chronicle.com/article/Colleges-Should-Teach-Broader/122735/>
- Walden, P. (1995). Journal writing: A tool for women developing as knowers. *New Directions for Adult and Continuing Education*, 65, 13-20. doi:10.1002/ace.36719956504
- Wessel, J., & Larin, H. (2006). Change in reflection of physiotherapy students over time in clinical placements. *Learning in Health and Social Care*, 5(3), 119-132. doi:10.1111/j.1473-6861.2006.00124.x
- Wince-Smith, D. L. (2006). The creativity imperative: A national perspective. *Peer Review*, 8, 12-14.
- Wong, F. K. Y., Kember, D., Chung, L. Y. F., & Yan, L. (1995). Assessing levels of reflection from reflective journals. *Journal of Advanced Nursing*, 22(1), 48-57. doi:10.1046/j.1365-2648.1995.22010048.x
- Woods, P. (2002). Teaching and learning in the new millennium. In C. Day & C. Sugrue (Eds.),

*Developing teachers and teaching practice: International research perspectives* (p. 73-91). London: Falmer.

- Wu, C., Hwang, G., Kuo, F., & Huang, I. (2013). A mindtool-based learning approach to enhancing students' innovative performance in management courses. *Australasian Journal of Educational Technology*, 29(1), 128-142.
- Yeh, Y. C., & Wu, J. J. (2006) The cognitive processes of pupils' technological creativity. *Creativity Research Journal*, 18, 213-227.  
doi:10.1207/s15326934crj1802\_7
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