

*Full Length Research Paper*

# The integration of technology and aesthetics when student teachers undertake blended learning in adolescent psychology: An interdisciplinary approach

Yu-Ling Liu

Teacher Education Center, Ming Chuan University, 5 De Ming Rd., Gui Shan District, Taoyuan County 333, Taiwan.

Received 05 July, 2014; Accepted 2 October, 2014

To have an understanding of aesthetics and technology in blended learning, student teachers' descriptions of their learning experiences were interpreted using action research. The reported 'impact on progress and achievement' provides insight into what is unique about the integration of aesthetics and technology and how it can link theory and practice, as well as promote self-awareness and reflection. The findings were considered from two perspectives: blended learning was used to link theory and practice, while the aesthetics model brought together self-awareness and reflection learning. An interdisciplinary approach was adopted by taking into account recent research in art therapy, narrative inquiry and blended learning. Narrative inquiry gave student teachers the opportunity to reflect on the past and present and ponder what to do next in the future. Art therapy strengthened their self-awareness and empathy. Blended learning offered asynchronous discussion forums, which allowed them to broaden and deepen what they learned in a given course through sharing, posting, responding, discussing, and debating in relation to their peers' ideas. Blended learning not only offers more choices and improves effective learning, it also enhances the aesthetic experience in adolescent psychology courses across the boundaries of time and place.

**Key words:** Aesthetic approach, blended learning, art therapy, narrative inquiry.

## INTRODUCTION

### The integration of technology and aesthetics

Secondary teacher education does not always address the issues related to a critical stage in an adolescent's development.

Training for secondary education teachers should involve putting teaching theory into practice; however, many studies have shown that the transfer of theory to practice is minimal (Zeichner, 2010). Most literature on

student teachers focuses on the cognitive approach, thereby neglecting the affective dimension. Cognitive knowledge alone does not prepare student teachers for affective challenges in the classroom. Few beginning teachers are ready for the broad non-academic skills that are needed in a classroom (Nasree, 2000; De Lange, 2000), nor are they equipped with more specific preparations to guide students through affective processes.

E-mail: [yuling@mail.mcu.edu.tw](mailto:yuling@mail.mcu.edu.tw). Tel: 886-3-350-7001. Fax: 886-3-359-3887.

Authors agree that this article remain permanently open access under the terms of the [Creative Commons Attribution License 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

## Objective of this study

A case in point is the adolescent psychology course. This course is required in teacher education programs around the world, including Taiwan, where it is required for the National Teacher Licensing Examination. The adolescent psychology course, however, often focuses on theoretical knowledge and provides very few practical skills to enable teachers to help their students face and resolve developmental and social issues. In fact, while these teachers have all gone through adolescence themselves, they have not necessarily reflected on the process. Indeed, they may have forgotten what it is really like to be an adolescent. As a result, an adolescent psychology class that overemphasizes abstract concepts does not provide an adequate understanding of the specific concepts, images, feelings, or needs of the young students who will eventually be taught by these future teachers. Adolescents would benefit from empathetic and practical support from teachers and the educational system as a whole.

This research seeks to bridge the gap between theory and practice by combining e-learning and aesthetic experiences with traditional course instruction. By including an aesthetic component in the instructional design for an adolescent psychology course, the researchers hope to provide student teachers with a more holistic experience that extends beyond the cognitive content of the course. This will develop student teachers' affective skills and ultimately benefit their future students.

To add an affective component to the course, this study explores the use of a class project that combines art therapy and narrative inquiry. Such a project provides teachers with affective experiences that help them reflect on their own experiences (Robertson, 2011), which will then enhance their self-awareness through self-reflection (Chan, 2010). The objectives of these studies are (1) to develop an adolescent psychology course that uses aesthetic experience and blended learning to bridge the gap between theory and practice, thereby creating a more transformative learning experience, (2) to incorporate art therapy and narrative inquiry into the course in order to promote student teacher self-awareness and reflection, ultimately leading to increased empathy for the experiences of the adolescents they will teach, (3) to utilize Moodle as a technology-based course management system to implement the multifaceted course plan, thus fostering a dynamic learning environment that will promote dialogue and interaction between instructor and students.

## LITERATURE REVIEW

The curriculum was developed to combine textbook materials, including case studies, with an aesthetic component involving art therapy and narrative inquiry. Classroom technology, including the Moodle learning

management system (LMS) and YouTube provide an opportunity for blended learning—a variety of concepts and teaching delivery methods—that integrates theory and practice in the adolescent psychology course. A curriculum that combines cognitive learning as well as affective learning through blended learning can raise teacher self-awareness, self-efficacy, self-regulation and competency through blended learning environments (Shea and Bidjerano, 2010). No model currently exists in the literature that combines all of the elements of the proposed integrated curriculum for adolescent psychology.

## Particular needs of adolescents

Typical early adolescence reflects a time of great cognitive, physical, social-emotional, and environmental change, including increased ability in formal operational thought, the onset of puberty and changes in relationships, peer expectation, familial roles and responsibilities, and school environment (Rosenblum and Lewis, 2003). Young adolescents often find their emotions elicited by obscure causes, including anticipation or recall of events and abstract concepts. They frequently exhibit rapid mood shifts and a great range of emotions, with extreme highs and lows (Arnett et al., 2011; Crowa and Seyboldb, 2013).

In addition to the tasks that all adolescents face in terms of individuation and belonging (Demaray and Malecki, 2002) while developing a moral self, they are dealing with social issues, such as bullying and drug use, including many at an affective level. Among the issues faced by adolescents are problems relating to sexual behavior, pregnancy, self-identity, alcohol consumption, internet addiction, the impact of technology in adolescents' identity and suicide. These changes produce specific disease patterns, unusual presentations of symptoms, and above all, unique communication and management challenges. This can make working with adolescents difficult (Tuttle and David, 2006). However, with the right skills, teaching and practicing with young people can be rewarding and fruitful. These skills are needed by educators who work with young people in the course of their careers.

Helping the individual learner to identify and work collaboratively in response to trauma or other personal issues is difficult, especially in the classroom, where issues may be too personally experienced. Student teachers are not capable of handling issues with adolescent problem which we mentioned above. Bandura noted that our behavior is changed when we see a person takes a specific action and is rewarded for it (Bandura, 1971). Students can increase their learning skills by using Moodle platform (Rodrigue and Lozano, 2012).

Therefore, the researcher integrated the elements of

online and face-to-face teaching and tried to provide realistic, practical opportunities for learners and teachers to engage in problem-solving activities (Kim and Hannafi, 2011; Yen and Lee, 2011).

### **Connecting aesthetic principles to instructional design theory**

Drawing from the work of Dewey (1934) for developing our idea of instructional design, we present a view of adolescent psychology from the perspective of art and aesthetics. Dewey's work has been associated with notions of learning by doing or learning through experience. Indeed, there is a vast literature in education that examines the ways in which enriched forms of experience contribute to the learning of concepts, and this literature fits nicely with many of Dewey's ideas (Kevin and Girod, 2007). He has also had a great deal of influence on aesthetics and the philosophy of art. His work *Art as Experience* (1934) is regarded by many as one of the most important contributions to this area in the 20th century.

Dewey's aesthetics not only provides a conceptualization of what it means to engage in a particularly meaningful and transformative experience, but also provides insight into the role that the learning of concepts may play in such experience (Parrish, 2005). Since any transformative learning experience will have significant aesthetic qualities, all instructional situations can benefit from attention given to these qualities (Parrish, 2009). The aesthetics of instructional design theory offers a way to integrate theory and practice in a way that enables teachers to address not only cognition but aspects of the affective domain (Parrish, 2005, 2009). However, no model yet exists in the literature to apply this method specifically to a course in adolescent psychology. In this study, we follow the steps below to complete Parrish's aesthetic principles (Parrish, 2005): (1) Learning experiences have beginning, middle, and ending. (2) Learners are the protagonists of their own learning experiences. (3) Learning activities establish the theme of instruction. (4) Context contributes to immersion in the instructional situation context. (5) Instructors and instructional designers are authors who support characters and model protagonists.

### **Learning experiences have beginning, middle, and endings—Narrative inquiry**

Learning with these three phases is merely to say that learners have different thoughts and feelings; if we pay attention to the needs, thoughts, and feelings of learners in these phases, and anticipate them in our instructional designs, we have a better chance to create an aesthetic learning experience (Parrish, 2005). Instruction might be centered on a realistic problem, as is done in problem-

based or case-based learning. There are myriad ways to impose conflict in instruction, and any one of them will be better than merely beginning to describe subject matter. Aristotle describes this as setting up the "complication," and this can include events that happen prior to the beginning of the narrative (Aristotle, 1984). Narrative inquiry is central to human cognition and requires self-awareness (Clandinin et al., 2007).

The term "narrative" has a dual meaning: it involves a story version of events for the person, as well as a lived experience between the researcher and the person (Craig, 2001). Because of the motivational force of narrative inquiry, story-based learning can be both engaging and effective (Lyons and Labokey, 2002). While narratives are definitely communicative, they also have aesthetic value (Connelly and Clandinin, 2006). Middle phases of instruction may require a degree of pattern or routine to create a level of comfort to accompany narrative artwork. Motif is a critical component of life stories, repetition reminds us that the piece is of a whole and motif provides a comfortable and familiar stop along the journey. It also provides a yardstick to reveal how things are changing or how they are connected; provides an anchor for new learning to take place, and helps to show how it is all fitting together (Lyons and Labokey, 2002).

The ending of a narrative needs to tie up loose ends, not introduce new ones (unless the pervasive nature of loose ends drives the theme of the work). It needs to justify the effort it took to engage with the work from start to finish and it should also provide a backward glance that brings the entire learning experience into focus. While learning experiences are complete in themselves, they also connect to past and future experience. Instructor can remind learners that these future opportunities exist, and that they now have new tools to address them. Artists as well acknowledge our previous experience by building upon it or by challenging it. They acknowledge our future by suggesting how the current aesthetic experience might color future perceptions of the world (Parrish, 2005).

### **Learners, the protagonists of their own learning experiences—Art therapy**

Art can be a gateway to the unconscious; creativity and the art process itself are healing (Naumberg, 1996). Since images and symbols are part of our conscious and unconscious make-up (Jung, 1972), the creative process of art making facilitates reparation and recovery and is a form of nonverbal communication of thought and feeling (Malchiodi, 2006). Art therapy is a hybrid discipline based on the fields of art and psychology, drawing characteristics from each parent to evolve a unique new entity (Malchiodi, 2006). Art therapy supports the belief that all individuals have the capacity to express themselves creatively and to assisting the person in finding meaning

in the creative process, and facilitating the sharing of the experience of image making with the people (Dileo and Bradt, 2009).

With the rapid increase in digital technology, art therapy is influenced by the domain of visual art that includes keyboards, computer screens, and other novel or nontraditional devices for image making (Stenhouse et al., 2013). More recently, digital media (digital cameras, photo-enhancement software, and internet communication) are having a significant impact on how images are created, transformed, and transmitted, reframing how art therapy takes place and how it is delivered in an electronic world (Malchiodi, 2012). All helping professionals understand that knowledge of materials and media is key to successful application used in the field as well as photography and the impact of digital media (computers, software, and other technology that are impacting practice in the 21st century) (Rubin, 2010). Artwork and the corresponding feelings it evokes may be reviewed in a dialogue so that new meanings and understandings are integrated (Hass-Cohen, 2008).

### Learning activities establishing the theme of instruction—Service learning

The subject matter of a course should be the arbiter for deciding what learning activities are possible and useful (Parrish, 2005). If learning arises from experience, learners need to engage in experiences within a domain of knowledge, just like the researchers, theorists, and practitioners who created it (Dewey, 1916). In this study, the subject matter focuses on salient issues concerning adolescent development as influenced by diverse contexts. The themes of adolescent development issues are integrated with adolescent experience. Student teachers learn through face-to-face and online discussions, with particular attention given to the challenges and strengths associated with adolescent development in the community. The course format includes lectures, discussion and five-minute digital story presentations. Additionally, student teachers are required to participate in service learning to engage in transformative learning.

Service learning gives student teachers an opportunity to apply what they learn in the classroom by performing acts of service that benefit the community. Student teachers develop critical thinking skills by reflecting on what they have learned, seen, and experienced (Halstead, 1997; Seitsinger and Felner, 2000). Billing (2002) confirmed the positive impact of service learning. Students who participated in service-learning activities demonstrated measurable increases in personal and social development (Scales et al., 2000).

### Context contributing to immersion in the instructional situation—Blended learning

The rapid growth of blended learning has led many

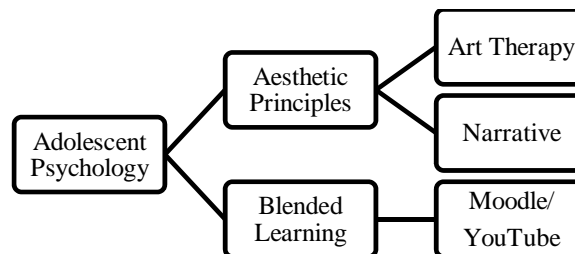


Figure 1. The concept map.

educators to consider technology as a means to enhance teaching and learning processes (McKenzie et al., 2013). New technologies have accelerated the pace of learning and have created unlimited opportunities for collaboration, insight, and knowledge production (Teemu et al., 2013). In this research, aesthetics and technology were combined in a holistic process. Aesthetics and technology have convergent functions on the efficacy of the educational project to effect human transformation at both a personal and community level. Blended learning offers an aesthetics-based, psychologically nuanced instructional design that supports the exchange and discussion of ideas and the relationship between emotion and cognition (Robinson, 2013). By using blended learning to mix narrative-based learning, adolescent case studies and service learning, we created a more flexible learning environment in the classroom.

In short, we integrated art therapy and narrative inquiry to explore the full potential of aesthetics as a resource for adolescence theory and practice. Art therapy and narrative inquiry are based on the belief that the creative process involved in the making of art is healing and life-enhancing. Using art to express feelings and narrative to tell stories creates connections that are healing and life-enhancing. Specifically, they can be connected to the aesthetic principles and valued instructional theories derived from traditional sources, such as cognitive psychology, learning theories, and behaviorism (Figure 1).

### METHODOLOGY

Action research is a systematic approach to investigation that enables people to find effective solutions to problems they confront in their everyday lives (Stringer, 2007). For some, action research is a purely pragmatic activity that focuses primarily on teacher practices, with classroom instruction and students' performance outcomes being the major reasons for engaging in action research (Mills, 2003; Baumfield et al., 2008).

In the current research, we chose (Carr and Kemmis's 1986) simple action research model (1986). We structure the typical action research process according to a cyclical model, where each cycle has four steps: plan—>act—>observe—>reflect. This subsequently leads to another cycle (Kemmis, 2008) (Figure 2).

### Contexts and subjects

An action research methodology was chosen for this project because

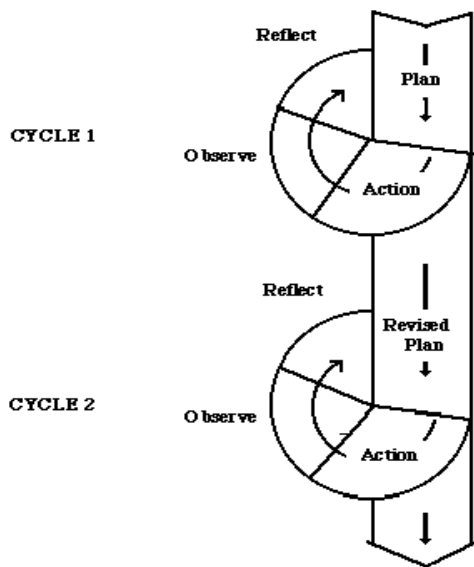


Figure 2. Simple action research model

the goal was to improve teaching practice and improve learning within the context of adolescent psychology courses taught in Taiwanese universities. Action research provides an iterative, systematic and analytical way to reflect on what we are doing in class, and therefore it provided the framework to help us achieve our goals (Cunningham, 2008). Action research is a cyclical process of data-collection. First, reflection evaluates practices that can improve outcomes. Next, action puts the ideas generated through reflection into practice. Finally, data-collection considers the impact of the ideas and actions to create further improvement.

Thirty-four participants were enrolled in the Adolescent Psychology Course at the Teacher Education Center of Ming Chuan University in the spring 2013 semester. Adolescent Psychology is a required course for non-education majors who want to become certified to teach in secondary schools in Taiwan. Of the participants, 53 (81.5%) were females and 12 (18.5%) were males.

### Learning environment

The Dynamic Learning Environment course management system was chosen due to its ability to host collaborative, archival knowledge construction within the relative security of an authentication-based online environment. Basic course materials included an in-depth study of recent adolescent literature, labs, books, and handouts in the physical classroom, as well as adolescent clinical case studies, current events and issues on the Moodle Learning Management System. This system provides a platform for the participants to interact with one another to exchange ideas, insights and personal experiences. In addition, it provides opportunities for social interaction, discussion of assignments, assessments of work, tutorial assistance, and strategic teaching.

We constructed a cognitive and affective learning environment through an aesthetic approach to instruction. When the learning context supports the exchange and discussion of ideas, there is the opportunity for each individual to assimilate new information and build on their current understanding by accommodating the ideas of other students (Hodgson, 2002; Laurillard, 2002). A blended learning environment was used that focused on both traditional classroom and web-based e-learning activities.

Blended learning incorporates a wide range of topics and provides sufficient choices, engagement, social contact, relevance, context and modes to deliver the learning content and meet learning objectives. There were many examples of adolescent life stories and problem solving cases that were written by student teachers from 2005-2012 and set up on Moodle and YouTube.

### Learning tasks and outcomes

There are two kinds of learning tasks: individual tasks and group tasks. A number of activities, including quizzes and online practice sets, were used in this action research project to provide a mixture of reflection, feedback and revision for students.

### Individual tasks—establishing a narrative self reaches

With regard to individual tasks, participants are asked to complete a pre-work assignment that helps gather the information needed to work on their own curriculum during the class. Then participants are asked to establish a narrative self reaches and establish their self-identity. Students use images to construct arguments connecting theory and story in their projects. In addition, participants present their adolescent life stories and life songs in a five-minute multimedia format at the middle of term. Other individual feedback and reflection activities include online practice sets, quizzes, and anonymous responses to two questions: "What was a big idea you learned in class today?" and "What was an unclear point in class today?"

### Group tasks—Service learning

Service-learning pedagogy that supports community involvement values and promotes leadership development offers effectiveness and efficiency for management educators interested in incorporating real-world learning into their courses, even more than traditional internships and cooperative education (Godfrey and Grasso, 2000). We adopted service learning because of its practical ability to provide students a direct link to real-world work skills, enabling the students to enhance and practice the concepts taught in class. The expected outcomes from service learning include (a) the enhancement of knowledge, with which students can learn to balance theory and practice of adolescent psychology concepts, (b) the development of good teamwork and communication skills, (c) the ability to readily adapt and respond to changing conditions in the learning environment, and (d) a constant emphasis on innovation (Emiliani, 2004).

### Data collection and analysis

We combined well-designed learning objectives and a variety of assessment techniques. With regard to the learning assessments, we used formative and summative online assessments, including discussion postings, assignments, and proctored and non-proctored tests and quizzes (written, multiple-choice midterm and final tests). For cognitive assessment, we used formative assessments to modify the teaching plan and learning experience in order to meet the learning outcomes.

Data collected for this study included field notes, documents, transcriptions of interviews and interactions, and artifacts. Since much of the data came from social interaction, consisting of constructions or interpretations, data analysis led to a reconstruction of these constructions (Lincoln and Guba, 1985). As a result, our data and information were interpretations made by student teacher participants as they answered questions or dialogues and by



Figure 3. Student teacher during service learning.

researchers as we wrote up our observations.

## FINDINGS

### Blended learning bridging the gap between theory and practice for the student teacher in the adolescent psychology course

Bandura (1997) proposed an account of how we learn based on our capacity for observing others and our access to symbolic modes of communication; we learn through observing, modeling and speaking with others. "There are lots of related news, movies, stories, and other adolescent life stories and case studies on Moodle, so it is not difficult to be familiar with adolescent theory, development and needs. Also, I applied theory to improve the low academic achievement of grade 8 students in the service learning. When I met with problems or other situations, I could find similar cases and problem-solving strategies on Moodle, e.g. fig 4" (Student 32, reflection journal) (Figure 3)

Learning experiences are different for each learner, depending on the connections made with other components of the situation, as well as what the learner brings to the situation and how he or she uses it in the future (Parrish, 2009). Learning experiences have many qualities: of course there are cognitive qualities, but there are also emotional, social, cultural, political, and aesthetic ones (Wilson, 2004). Moodle's learning management system (LMS) can combine these in a way that supports a worthwhile educational experience when using text-based forums (Garrison et al., 2010). Traditional adolescent psychology courses overemphasize the importance of abstract concepts and cognitive learning, neglecting the role of individual concepts, images, feelings and needs in the classroom. Instructors who use LMS with YouTube can create effective online adolescent psychology learning sites in which student teachers can read and watch adolescent issues from all over the world

(Wesch, 2009). In addition, LMS provides an effective learning environment – a pedagogical, social, and cognitive presence that enables learners to identify and relate to salient issues, that encourage them to reflect on and share findings, and that ultimately empower them to effectively deal with adolescent issues in real life (Liu, 2012, 2013). According to Robinson, when the social and teaching presence are satisfactory, students' learning experience is both emotionally satisfactory and pedagogically productive for all interpersonal interaction (Robinson, 2013).

### Blended learning offering opportunities for learners who want to learn more

The positive impact of blended learning has accelerated the pace of learning and created unlimited opportunities for collaboration, insight, and knowledge production. Consider the following comment, which is from the reflection journal of a student teacher who participated in service learning in another course two years ago, a course that did not use blended learning:

*"This course allowed for asynchronous communication and offered the practical advantage of flexibility as to when and where engagement with the group and the shared group task takes place" (Student 22, reflection journal).*

Also, consider the following comment another student teacher made during an interview: "Internet bullying is a form of personal attack which employs threats, pressure and intimidation through the avenues of internet technology. With blended learning, I can read about bullying issues and discuss problem-solving strategies. I understand I need more knowledge and skill with adolescents, because the bullying may take place through the use of messaging sites, blogs, online forums, electronic mail and other means of cyber technology"



Figure 4. Using a cat to present herself.

(Student 8, interview).

From this study, we know that blended learning increases active learning strategies among students (Collis et al., 2003) It integrates two main components (face-to-face and internet technology), and this integration can create highly stimulative, richly interactive experiences for learners, enabling them to acquire the competence to communicate and collaborate. We provided participants with learning opportunities that will equip them “to step into their future as well-rounded and well-adjusted people” (Hillier et al., 2005). Through blended learning, student teachers can be empowered to act as information developers and multipliers who research, generate and distribute information concerning the possible impact of environmental, societal and lifestyle risks on individual and community health.

### **Integrating art therapy and narrative inquiry as an aesthetic experience that promotes student teachers’ self-awareness and reflection**

#### **The combination of aesthetics and technology highly successful in engaging and captivating learners**

The combination of aesthetics and technology in a holistic learning process that “dramatizes” key aspects of curriculum has proven to be highly successful in engaging and captivating learners (Hillier et al., 2005). Aesthetic experiences are important to us because they demonstrate the expressive power of life; they reveal the depth of meaning life can hold and suggest how we can

use our powers to discover and create that meaning (Alexander, 1998).

Narrative inquiry is grounded in the notion that teachers not only hold and use knowledge but also create new knowledge based on their storied experiences in context (Clandinin and Murray, 2007).

Knowledge about what one does not know is “knowledge about one’s own thinking” and is essential to becoming a self-monitoring or self-regulated learner (Schleifer and Dull, 2009). In a face-to-face classroom, it is not easy for some students to share their past experiences because some students are shy. They will use the “third person” to tell their story through multimedia, e.g. fig. 4.

“I used a cat to present myself and put my story on Moodle and YouTube. I got commendation from classmates, which gave me lots of encouragement.” (Student 25, reflection journal) (Figure 4).

Some student teachers did not like to talk about themselves in front of classmates; they would introduce adolescent cultures or problems as a substitute for their life story. Figure 5 showed an adolescent sub-culture in Taiwan.

“I am not comfortable with talking about myself in public. I know that speech shapes our images of things, and those images would recreate my identity. From this project, I understand that self-disclosure is one way to learn about how another person thinks and feels. Aesthetic experiences reduce my need for self-defense and improve my social skills. In an emotional and affective situation, when I hear or watch a classmate’s life story with their life music, I can empathize easily with their thoughts and feelings. Mutual disclosure deepens



Figure 5. Introducing an adolescent sub-culture.

trust in the relationship and helps both people understand each other more. I got positive feedback by meta-cognition, responses and by advice from others through dialogue in the class and on Moodle” (Student 31, reflection journal).

Service learning combines classroom instruction with meaningful community service. Student teachers had many moments of productive internal conflict through the aesthetic program. Asynchronous discussion has become a basic and important teaching and learning strategy. Moodle allows “text-based human-to-human communication via computer networks that provides a platform for the participants to interact with one another to exchange ideas, insights and personal experiences” (Instructor, research reflection journal). Student teachers can broaden and deepen what they have learned from a given course through sharing, posting, responding, discussing, and debating in relation to peers’ ideas (Vonderwell, 2003).

Individual narrative inquiry and service learning are forms of learning that emphasize critical thinking and personal reflection while encouraging a heightened sense of community, civic engagement, and personal responsibility. This type of learning can be used to support student teachers’ reflections on practical situations they are confronted with, and on their behavior, skills and beliefs in such situations.

Zimmerman (2000) defines meta-cognitive reflection “as the awareness of and knowledge about one’s own thinking”. From the evidence above, we know that when student teachers create artwork, they bring a creative strategy to service learning. These kinds of performative or artistic expressions allow students to gain meta-knowledge about themselves (Figure 5).

### An integrated curriculum able to promote student teachers’ reflections

Student teachers have similar life stories, but different life scripts, in adolescence. The results showed that participants’ life story patterns are homogeneous, while their life scripts are diverse. All student teachers take the same National Entrance Examination in high school. Life scripts shared expectations about the order and timing of events in a prototypical life course (Berntsen and Rubin, 2004). From the adolescent life stories they reported, we

found that student teachers have similar memories. More student teachers perceived the examination as a negative event, and less perceived their first entrance examination as positive. They mentioned many negative explanations, such as fear of failure or low grades as a kind of shame for the family.

“ore student tried about academic performance, because my punishment for a poor grade was two hours of standing outside the classroom. Everybody would think I was stupid” (Student 2, adolescent life story).

“Junior high school has become an individual, family, and teacher process that is highly charged with anxiety . . . I easily become ashamed. If I have low self-esteem, how can I encourage younger students to conquer their weak points?”(Student 35, adolescent life story)

“ I didn’t want to recall that time, because I had a terrible teacher. I didn’t understand why everybody had to stay at school from 7:30 am to 5 pm, and then go to cram school from 6pm to 10pm. The meaning of life was getting good grades at that time, and even though I am a graduate student now, the situation is still the same –at least, I want to be an efficient teacher to assist student learning in the future”(Student 17, reflection journal).

Clandinin and Connelly view re-storying experiences as essential to teachers’ personal and social growth, suggesting they have the potential to create a new sense of meaning and significance in teachers’ current or future work (Clandinin and Connelly, 2000). Student teachers interpret and reinterpret their experiences retrospectively, since they aim to reconstruct and reconfigure past events through the retelling of them. Thus, storying and re-storying their life enables a student teacher to create meanings from systematic inquiry and reflection (Golombek and Johnson, 2004).

### Conclusion

Education is about insight—both giving and gaining (Glisczinski, 2008; Bahr, 2010). From this study, student teachers have ample opportunity to access insight by actively engaging in aesthetic experience and blended learning. Instructor has access to student insights as well. Traditional course structures seldom support the authentic exchange of insights between students and instructor; the



learner-centered course provides opportunity for students to share insights. Williams (2003) pointed out that “sit beside” a learner, in order to listen, observe, measure, and evaluate the degree to which the learner communicates understanding. The hidden meaning of “sit beside” is that asynchronous discussion forum provides opportunities for social interaction, discussion of assignments, assessments of work, tutorial assistance, and strategic teaching (Mazzolini and Maddison, 2003). From the interview, Student teacher said: ‘We can broaden and deepen what we have learned from given course through sharing, posting, responding, discussing, and debating in relation to peers’ ideas with Moodle. We created a learning environment that explicitly established and verbalized mutual respect. We felt most engaged when course pedagogies provided space and time for us to reflect on our emerging understandings.’ Mezirow pointed out that developing and communicating insight—whether bliss inducing, equivocal, or poignant—may be among the most valuable and memorable outcomes that instructor affords, as insights contain the potential to inform, negotiate, and even transform attitudes, beliefs, and behavior (Mezirow, 2000).

This study developed an adolescent psychology course that uses aesthetic experience and blended learning to bridge the gap between theory and practice, thereby creating a more transformative learning experience. Student teachers felt engaged in complex course concepts when pedagogies bridge the gap between theory and practice, so that students could develop and articulate emerging understandings and course-related insights. The result finding shows that to incorporate art therapy and narrative inquiry into the course is able to promote student teacher self-awareness and reflection, ultimately leading to increased empathy for the experiences of the adolescents they teach. Vygotsky (1978) suggested that this sort of capacity building requires scaffolding strong enough to support learners’ cognitive and affective interactions sufficient to foster multi-domain learner development. These findings reflect the human needs analysis offered by Maslow (1954). When students report feeling affirmed or valued in expression that fits their schema of what affirmation typically sounds or feels like, they may engage in discourse and actualization of being needs. The course yet rewarding cognitive, affective, and psycho motor work of interpreting, characterizing, and articulating their new professional insights brought expressions of feeling increasingly empowered to respond to the complex demands of skillful professionalism in art therapy and narrative inquiry learning environment.

In closing, we can say the following. Student teachers who read or hear about our program are often worried that it may take too much time and energy to earn their credits. It is interesting that the student teachers who have attended our course do not express this worry. This phenomenon can be explained when one considers that the source of the worry may be that most students

associate “lack of talent to create, lack of time and space to make a dialogue” with delving into problems and pain. We believe that this has to do with a traditional image of adolescent psychology. Through technology, student teachers are able to make music or draw pictures they want. When they are involved in art therapy and narrative inquiry, they get an “optimal experience”, what Csikszentmihalyi defines as a state of consciousness called “flow”. During flow, people typically experience deep enjoyment, creativity, and a total involvement with life (Csikszentmihalyi, 1996). Past empirical research shows that an aesthetic approach curriculum offers students opportunities to reflect on their diverse value systems and maintain open-mindedness, while also provoking critical reflection and a counterpoint to current discourse in the field (Smith, 2006).

Solving real-world problems is an effective learning activity that promotes meaningful learning in formal educational settings (Laxman, 2010). As part of service learning, we offered student teachers asynchronous discussion. Gibbs and Bernas (2008) found that asynchronous communication allows students nearly unlimited time to compose and send messages, to respond to others and to access learning content at convenient times. Blended learning offers online asynchronous discussion on Moodle, which enables individuals to communicate with one another without the constraints of geographic locations and time zones. The aesthetic activities and service learning through synchronous and asynchronous discussion boards both enable students to explicitly express their thoughts in writing and promote communication among teachers and students. The process of writing promotes reflection and dialogue, which facilitates higher-level learning such as analysis, synthesis, and evaluation (Garrison et al., 2000). There is evidence that engagement with artistic activities, either as an observer of the creative efforts of others or as an initiator of one’s own creative efforts, can enhance one’s moods, emotions, self-awareness and other psychological states as well as have a salient impact on important physiological parameters (Staricoff and Loppert, 2003).

Seligman and Csikszentmihalyi (2000) critique the traditional view of psychology on human growth as ineffective. Extending this analysis, this study explores an integrated program in order to gauge the effectiveness of teaching positive adolescent psychology. Because positive feelings can broaden the person’s thought–action repertoire and lead to an increase in the use of personal resources, we promoted student teachers’ awareness of positive thoughts and activities in order to enrich their own learning experience as well as the learning experience of their students.

### Limitations of the study

It is important to acknowledge three limitations of this

study. Firstly, the provenance of the data set is unusual. Originally these accounts were archived as a data source for evaluating the course. Over time it became apparent that they were also a useful data set for researching the possible effects of integrating aesthetics and technology in the classroom. Secondly, the course has a high-stakes outcome, and it is acknowledged that those student teachers who contributed to the data set used in this study may have done so in order to influence the assessment process. The third limitation concerns the method of analysis. In producing these accounts the student teachers have already interpreted their learning experience. This means that the researcher's interpretation represents yet another layer based on their subjective experiences of student teachers. Nevertheless, we have identified some implications of the findings for the integration of aesthetics and technology as well as the value of promoting reflection, and we have offered recommendations about these practices. For all these reasons, further research that extends our understanding of what is unique about the aesthetic experience, various types of reflection activities, and an integrated curriculum is required.

### Conflict of Interests

The author has not declared any conflict of interests.

### REFERENCES

- Alexander TM (1998). The art of life: Dewey's aesthetics. In: L. A. Hickman (Eds.), *Reading Dewey: Interpretations for a postmodern generation*. Bloomington, IN: Indiana University Press pp.1–22.
- Aristotle S (1984). *The Complete Works of Aristotle: The Revised Oxford Translation*. Princeton University Press.
- Arnett PA, Barwick FH, Beene JE (2011). Depression in multiple sclerosis: Review and theoretical proposal. *Int. Neuropsychol. Soc.* 4:691–724.
- Bahr P (2010). The bird's eye view of community colleges: A behavioral typology of first-time students based on cluster analytic classification. *Res. Higher Educ.* 51(8):724–749. DOI: 10.1007/s11162-010-9180-5
- Bandura A (1971). *Psychological Modelling*. New York: Lieber-Antherton.
- Bandura A (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Baumfield V, Hall E, Wall K (2008). *Action research in the classroom*. Thousand Oaks, CA: Sage.
- Berntsen D, Rubin D (2004). Cultural life scripts structure recall from autobiographical memory. *Memory & Cognition*, 32: 427–442.
- Billing SH (2002). Support for K-12 service-learning practice: A brief review of the research. *Educ. Horizons* 80:184–190.
- Carr W, Kemmis S (1986). *Becoming critical: Education, knowledge and action research*. Lewes: Falmer.
- Chan D W (2010). Gratitude, gratitude intervention and subjective well-being among Chinese school teachers in Hong Kong. *Educ. Psychol.* 30(2):139–153.
- Clandinin JD, Connelly M (2000). *Narrative inquiry: experience and story in qualitative research*. San Francisco, CA: Jossey Bass Publishers.
- Clandinin JD, Pushor D, Murray A (2007). Navigating sites for narrative inquiry. *J. Teacher Educ.* 58(1):21–35. <http://jte.sagepub.com/content/58/1/21.refs>
- Collis B, Bruijstens H, van der Veen JK (2003). Course redesign for blended learning: Modern optics for technical professions. *Int. J. Continuing Engineering Educ. Lifelong Learn.* 13(1/2):22–38.
- Connelly M, Clandinin JD (2006). Narrative inquiry. In: J. L. Green, G. Camilli, P. Elmore (Eds.), *Handbook of complementary methods in education research* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum. pp. 477–487.
- Craig JC (2001). The relationships between and among teachers' narrative knowledge, communities of knowing, and school reform: A case of "The Monkey's Paw." *Curriculum Inquiry* 31(3):303–330.
- Crowa JR, Seybold AK (2013). Discrepancies in military middle-school adolescents' and parents' perceptions of family functioning, social support, anger reactivity, and concerns. *J. Adolesc.* 36(1):1–9.
- Csikszentmihalyi M (1996). *Creativity: Flow and the psychology of discovery and invention*. New York: Harper Perennial.
- Cunningham BM (2008). Using action research to improve learning and the classroom learning environment. *Issues in Account. Educ.* 23(1):1–30.
- Demaray MK, Malecki CK, Menon V (2002). The child and adolescent social support scale for healthy behaviors. Northern Illinois University: DeKalb, IL.
- Dewey J. (1934/2005). *Art as Experience*. NY: Perigee Books.
- Dewey J (1916). *Democracy and education: An introduction to the philosophy of education*. New York: Macmillan.
- Dileo C, Bradt J (2009). On creating the discipline, profession, and evidence in the field of arts and health care. *Art and Health: An int. J. Res. Policy Practice* 1(20):168–182.
- Emiliani ML (2004). Is management education beneficial to society? *Manage. Decis.* 42:481–498.
- Garrison DR, Anderson T, Archer W (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *Internet Higher Educ.* 2(3):87–105.
- Garrison DR, Anderson T, Archer W (2010). The first decade of the community of inquiry framework: a retrospective. *Internet Higher Educ.* 13(1–2):5–9.
- Gibbs W, Simpson LD, Bernas RS (2008). An analysis of temporal norms in online discussions. *Int. J. Instructional Media* 35(1):63–75.
- Gibbs W, Simpson LD, Bernas RS (2008). An analysis of temporal norms in online discussions. *Int. J. Instructional Media*, 35(1):63–75.
- Glisczinski DJ (2008). Seeking insight: Critical incidents, collaboration, and cyber-reflection in college (PDF download). MountainRise: The Journal Scholarship of Teaching and Learning, 4(3). <http://mountainrise.wcu.edu/index.php/MtnRise/article/viewFile/98/29>
- Godfrey PC, Grasso ET (2000). *Working for the common good: Concepts and models for service learning in management*. Washington, DC: American Association for Higher Education.
- Golombek P, Johnson EK (2004). Narrative inquiry as a meditational space: examining emotional and cognitive dissonance in second-language teachers development. *Teachers and Teaching: Theory Practice* 10(3):307–327.
- Halstead AL (1997). A bridge to adulthood: Service learning at the middle level. *Midpoints* 7:3–17.
- Hass-Cohen N (2008a). Who are we? Updating personal and collective memories. My complement, my enemy, my oppressor, my love: An art therapist's look at Kara Walker's retrospective exhibit. *GAINS Community Newsletter* 19–29.
- Hass-Cohen N (2008b). Create: Art therapy relational neuroscience principles (ATR-N). Sensory processes & responses. In: N. Hass-Cohen, & R. Carr (Eds.), *Art therapy and clinical neuroscience*. London and Philadelphia: Jessica Kingsley Publishers.
- Hillier DA, Mitchell A, Millwood R (2005). Change of heart! A new e-Learning model geared to addressing complex and sensitive public health issues. *Innov. Educ. Teach. Int.* 42(3):277–287.
- Hodgson V (2002). Issues for democracy and social identity in computer mediated communication and networked learning. In: C. S. A. C. Jones (Ed.), *Networked learning: Perspectives and issues*. London: Springer-Verlag. pp.229–242.
- Jung CG (1972). *Four archetypes: mother, rebirth, spirit, trickster*. London: Ark.
- Kemmis S (2008). Critical theory and participatory action research. In: Reason, P. and Bradbury, H. (eds.) *Handbook of Action Research*

- (3rd ed.). Thousand Oaks, CA: Sage pp.121–138.
- Kemmis S, McTaggart R (1988). *The Action Research Planner*. Geelong, VIC: Deakin University Press.
- Kevin JP, Girod M (2007). Science, art, and experience: Constructing a science pedagogy from Dewey's aesthetics. *J. Sci. Teacher Educ.* 18:9–27.
- Kim MC, Hannafin MJ (2011). Scaffolding 6th graders' problem solving in technology-enhanced science classrooms: A qualitative case study. *Instructional Sci.* 39(3):255-282.
- Laurillard D (2002). *Rethinking university teaching: A conversational framework for the effective use of educational technology*. London: Routledge.
- Laxman K (2010). A conceptual framework mapping the application of information search strategies to well and ill-structured problem solving. *Comput. Educ.* 55:513–526.
- Lincoln YS, Guba EG (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.
- Liu YL (2012). Integrating narrative inquiry and e-learning to promote student teacher moral consciousness and moral consideration in adolescent psychology. Paper presented at the Seventh Annual Conference of The Asia-Pacific Network for Moral Education College of Education, Minxiang, Taiwan.
- Liu YL (2012). Using blended learning to promote secondary school student teacher's empathy —A multicultural perspective. Paper presented at the Multicultural Education in a Global Perspective Conference, Beijing, China.
- Liu YL (2013). Imagination, creation and reflection in the remedial teaching practice : A model of transformative experience. Taiwan Education Research Association & Pacific Rim Objective Measurement Society
- Lyons N, Labokey K (2002). *Narrative inquiry in practice: advancing the knowledge of teaching*. New York, Teachers College Press.
- Malchiodi CA (2006). *The art therapy source book ( 2nd ed.)*. New York: Mcgraw-Hill.
- Malchiodi CA (2012). *The handbook of art therapy*. New York: Guilford Press
- McKenzie W, Perini E, Rohlf V, Toukhsati S, Conduit R, Sanson G (2013). A blended learning lecture delivery model for large and diverse undergraduate cohorts. *Computers Educ.* 64:116–126. <http://eric.ed.gov/?id=EJ1008358>
- Mills G (2003). *Action research: A guide for the teacher researcher (2nd ed.)*. Columbus, Ohio: Merrill Prentice Hall.
- National Coalition of Creative Arts Therapies Associations (2009). Fact sheet on creative arts therapies. Available at: [http://www.nccata.org/fact\\_sheet.htm](http://www.nccata.org/fact_sheet.htm).
- Naumberg M (1996). *Dynamically oriented art therapy: Its principles and practice*. New York, NY: Grune & Stratton.
- Parrish EP (2009). *Aesthetic principles for instructional design*. Saddle River, NJ: Merrill/Prentice Hall.
- Parrish PE (2005). Embracing the aesthetics of instructional design. *Educ. Technol.* 45(2):16-25.
- Robertson J (2011). The educational affordances of blogs for self-directed learning. *Comput. Educ.* 57(2):1628–1644.
- Robinson K (2013). The interrelationship of emotion and cognition when students undertake collaborative group work online: An interdisciplinary approach *Comput. Educ.* 62:298–307.
- Rodrigue ET, Lozano MP (2012). The acceptance of Moodle technology by business administration students. *Comput. Educ.* 58:1085–1093.
- Rosenblum G, Lewis M (2003). Emotional development in adolescence. In: G. Adams, & M. Berzonsky (Eds.), *Blackwell handbook on adolescence* (pp. 269–289). Oxford: Blackwell Publishers.
- Rubini JA (2010). *Introduction to art therapy: Sources and resources*. New York: Routledge.
- Scales PC, Blyth DA, Berkas TH, Kielsmeier J (2000). The effects of service-learning on middle school students' social responsibility and academic success. *J. Early Adolesc.* 20:332-358.
- Schleifer LLF, Dull RB (2009). Metacognition and performance in the accounting classroom. *Issues Account. Educ.* 24:339-367.
- Seitsinger AM, Felner RD (2000). By whom and how is service-learning implemented in middle level schools: A student of opportunity-to-learn conditions and practices. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.
- Shea P, Bidjerano T (2010). Learning presence: Towards a theory of self-efficacy, self-regulation, and the development of a communities of inquiry in online and blended learning environments. *Comput. Educ.* 55:1721–1731.
- Smith RA (2006). *Culture and the arts in education: Critical essays on shaping human experience*. New York: Teachers College Press and the National Art Education Association.
- Staricoff R, Loppert S (2003). Integrating the arts into health care: Can we affect clinical outcomes? In Kirklín, D., and Richardson, R., ed. *The healing environment without and within*. London, England: Royal College of Physicians. pp. 63-80.
- Stenhouse R, Tait J, Hardy P, Sumner T (2013). Dangling conversations: reflections on the process of creating digital stories during a workshop with people with early-stage dementia. *J. Psychiatric Mental Health Nurs.* 20(2):134-141. <http://www.ncbi.nlm.nih.gov/pubmed/22413774>
- Stringer E (2007). *Action research*. (3rd ed.). Thousand Oaks, CA: Sage.
- Teemu V, Stina H, Sini K, Anu H-A, Sirpa K, Jari K (2013). Pre-service teachers' experiences of using social software applications for collaborative inquiry. *Computers Educ.* 69:85–95. <http://www.sciencedirect.com/science/article/pii/S0360131513001668>
- Tuttle J, David TM (2006). Positive adolescent life skill training for high-risk teens: Result of group intervention study. *J. Pediatric Health Care* 0(3):84–191.
- Vonderwell S (2003). An examination of asynchronous communication experiences and perspectives of students in an online course: a case study. *Internet and Higher Educ.* 6(1):77-90.
- Wesch M (2009). YouTube and you: Experiences of self-awareness in the context of the collapse of the recording webcam. Hampton Press, Inc., and MEA. pp.19-34.
- Wilson GB (2004). Foundations for instructional design: Reclaiming the conversation. In: J. M. Spector & D. A. Wiley & C. Ohrazda & A. Van Shack (Eds.), *Innovations in instructional technology: Essays in honor of M. David Merrill*. Mahwah, NJ: Erlbaum. pp. 237-252.
- Yen JC, Lee CY (2011). Exploring problem solving patterns and their impact on learning achievement in a blended learning environment. *Comput. Educ.* 56(1):138-145.
- Zeichner K (2010). Rethinking the connections between campus courses and field experiences in college- and university-based teacher education. *J. Teacher Educ.* 61(1-2):89–99
- Zimmerman BJ (2000). Attaining self-regulation: a social cognitive perspective. In: M. Boekaerts & P. R. Pintrich (Eds.), *Handbook of self-regulation*. New York: Academic Press. pp.13–39.