Abstract
Those who are interested in emerging practical educational strategies for facilitating effective online instruction will find this chapter informative. Exemplary online educators employ teaching technologies that optimize meaningful interaction, facilitating an ongoing social experience that helps create a culture of community (Perry & Edwards, 2005, 2010). Many of these strategies that help establish an online educational culture of community share one aspect: they are founded in the artistic. That is, they include literary, visual, musical, or dramatic elements. We have labelled these “artistic pedagogical technologies” (APT s). In this chapter, APT s are defined, and examples are provided. Current related literature is summarized. Explanations regarding how APT s encourage interaction, create social presence, and facilitate a culture of community in the online educational milieu are proposed. Vygotsky’s (1978) Social Development Theory (SDT) frames the discussion. Philosophical, theoretical, and pedagogical shifts that could influence the development, adoption, and use of APT s are described.

Introduction
Advances in Internet-based technology have changed the social and pedagogical perspectives of online learning (Dabbagh, 2004). Many online educators have moved philosophically from objectivism to constructivism, theoretically from behaviourism to socio-cognitive views of education, and pedagogically from supporting direct instruction...
to championing collaborative learning (Shea, 2006). In step with these foundational shifts, scholars emphasize values such as interaction, social presence, and community in the post-secondary online classroom (Dabbagh, 2004; Hodge et al., 2006; Rourke, Garrison, Anderson, & Archer, 2000; Shu-Fang & Aust, 2008). There is limited research exploring specific teaching technologies that presume to help create interaction, social presence, and community in online educational venues. Discussion regarding the theoretical underpinnings and factors that influence the development and implementation of these techniques is sparse. Published literature regarding online teaching strategies often focuses on more conventional technologies such as e-mail and computer-mediated conferencing (Moisey, Neu, & Cleveland-Innes, 2008). Other literature centres on emerging technologies on a macro level, such as virtual worlds, social networking technologies, learning management systems, and presence pedagogy (Bronack, Cheney, Riedl, & Tashner, 2008).

This chapter explores a specific group of emerging educational technologies that our preliminary research has shown may help enhance interaction, facilitate a shared social experience, and create a culture of community in online post-secondary classes. We call these “artistic pedagogical technologies” (APT’s) and define them as teaching strategies founded in the arts. Typically they may include literary, visual, musical, or dramatic elements. APT’s are distinguished from traditional online technologies in part by their emphasis on aesthetics and their link to creativity. This discussion of APT’s takes the conversation regarding emerging technologies for online education to a micro level as we examine specific teaching strategies.

Background
Exemplary online educators infuse a sense of presence in the online classes they teach (Perry & Edwards, 2005). This sense of presence is both created and conveyed through the incorporation of interactive teaching strategies such as Photovoice, virtual reflective centres, and conceptual quilting (Perry, 2006; Perry, Dalton, & Edwards, 2008). Preliminary research found that these teaching technologies helped
the students directly and helped to stimulate interaction between students and teachers, between students, and between students and the course materials. The result of such interactions is the enhancement of the experience of social presence in the virtual class, creating what we have labelled a “culture of community” (Perry & Edwards, 2009, 2010). The repeated experience of an authentic shared presence helps to establish shared values, norms, and beliefs; a shared culture in the online class. This chapter builds on this research and examines a category of emerging teaching technologies; APTs. Previously unpublished findings regarding APTs are featured, APTs are further defined and described, and we speculate on how and why these approaches may make online teaching more effective. This discussion is framed from the theoretical standpoint of Vygotsky’s (1978) Social Development Theory (SDT). Theoretical and pedagogical shifts that could influence the development, adoption, or use of APTs are described.

**Current Relevant Literature**

A plethora of literature supports the importance of interaction, social presence, and community in online education (Conrad, 2002; Garrison, 2007; Lee, Carter-Wells, Glaeser, Ivers, & Street, 2006; Liu, Magjuka, Bonk, & Lee, 2007; Rovai & Wighting, 2005; Shu-Fang & Aust, 2008). The literature is less forthcoming in terms of how to facilitate APTs.

**Interaction**

Moore defines interaction in online education as a student-course content, student-student, or student-teacher exchange (1989). Others add interaction between student and self (Ornelles, 2007; Sorensen, Takle, & Moser, 2006) and between student and technology (Battalio, 2007). Anderson (chapter 2) further expands the notion of interaction including individuals, technology, and content. Positive outcomes of interaction in online courses include creativity and collaboration (Zwirn, 2005), increasing higher-order thinking and retention (Bevis, 1989), and moving online courses away from being text-based correspondence classes (Shea, Pickett, & Pelz, 2003).
Social presence

Social presence is the ability of students and teachers to project their personal characteristics into the online class, thereby presenting themselves as “real people” (Rourke et al., 2000). The value of social presence to effective online teaching and learning is commonly highlighted. For example, social presence is one cornerstone of the widely supported Community of Inquiry Model (Rourke et al., 2000).

Kehrwald (2008) cautions that despite the general agreement among researchers that social presence is a key element in effective online teaching and learning, a shared understanding of social presence has not yet emerged. However, there does seem to be general agreement that interaction in the online classroom is linked to the experience of social presence (Kehrwald, 2008; Perry et al., 2008; Perry & Edwards, 2010; Rourke et al., 2000). Shea et al. (2003) concluded that successful teachers who engage fully with learners from a distance use teaching strategies that stimulate interaction by conveying human presence.

Community

The effective online classroom is a social community (Swan, 2003) that enacts community values such as the exchange of beliefs and ideas (Marzano, 1998). We define community as shared culture in the online classroom, including shared values, norms, and beliefs (Perry & Edwards, 2009, 2010). Others have defined community as a classroom in which knowledge is mutually constructed (Abbott & Fouts, 2003; Peterson, Carpenter, & Fennema, 1989).

The creation of an online learning community serves as the foundation for a successful learning environment (Conrad, 2002; Lee et al., 2006). Learners in such a community are active and engaged (Bandura, 2000; Rice-Lively, 1994), experience enhanced self-worth (Conrad, 2002) and increased cognitive learning (Bandura, 2000; Liu et al., 2007; Rovai, 2002b), do not experience alienation and isolation (Knowles, 1990; Moule, 2006; Rice-Lively, 1994; Rovai, 2002b; Rovai & Wighting, 2005; Saritas, 2008), and finish programs and courses (Wiesenberg & Stacey, 2005, 395). Moule found “mutual engagement,” “joint enterprise,” and “shared repertoire” resulted from what she called an “e-community”
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Moisey et al. (2008) found significant positive correlations between students’ satisfaction with their courses and programs and levels of the sense of community cohesion. Rovai (2002a) argued that online classrooms have the same potential to build and sustain a sense of community as do face-to-face classes. He stated that a learning community “consists of four related dimensions: spirit, trust, interaction, and commonality of learning expectations and goals” (p. 12).

Facilitation of interaction, social presence, and community

Facilitating interaction, social presence, and community in the online classroom is primarily the teacher’s responsibility (Swan, 2003). Rovai agrees, saying, “given the particular affective nature of forming and maintaining a sense of community in the online classroom, extra demands are placed on … facilitators” (2002b, p. 3).

There is minimal literature related to specific teaching strategies that facilitate these goals. In an analysis of three credible distance education journals seeking to identify trends in research related to interaction in Internet-based distance learning, Karatas (2008) reported that between 2003 and March 2005, there were no articles published on design-related topics such as instructional strategy development and course materials design. Educators are left to create interactive teaching technologies to achieve these goals, yet the literature suggests that they are often not successful (Pelz, 2004). Pelz noted that most online courses are still isolating, one-way, correspondence courses (2004). Often teaching strategies are developed and utilized without being first subjected to rigorous research-based assessment (Perry & Edwards, 2005).

Some researchers provide broad guidelines for pedagogy that could enhance interaction, social presence, and community in online courses. For example, activities that promote negotiation and debate (Ouatu, 2006), teacher communication behaviours that reduce social and psychological distance (Shu-Fang & Aust, 2008), mimicking proximity by addressing social and psychological factors such as social space and social presence (Hodge et al., 2006), and dialogue that allows knowledge to be constructed, deconstructed, and reconstructed (Bakhtin, 1986; Wegerif, 2006) are proposed. Rovai suggests that “instructors teaching
at a distance may promote a sense of community by attending to seven factors: transactional distance, social presence, social equality, small group activities, group facilitation, teaching style and learning stage, and community size” (2002a, p. 12).

Studies make reference to the importance of immediacy (communication behaviours that reduce social and psychological distance between people) in facilitating interaction, social presence, and community online (Kreijns, Kirschner, & Jochems, 2002; Na Ubon & Kimble, 2004; Richardson & Swan, 2003; Woods & Baker, 2004). These investigations focus on conventional tools such as computer conferencing systems (CCSs), online chats, or e-mail (Moisey et al., 2008; Saritas, 2008). Saritas found that CCSs enhanced social interaction, collaboration, and dialogue, and Moisey et al. found that CCSs had positive effects on online community cohesion (2008).

In summary, interaction, social presence, and community are widely accepted as important to effective online teaching and learning. Educators are often without evidence-based guidance as to what teaching technologies will help to facilitate these goals. Artistic pedagogical technologies seem to help accomplish these outcomes in online post-secondary classrooms (Perry & Edwards, 2005; Perry et al., 2008). How and why this happens is not yet fully understood.

Definition and Description of Artistic Pedagogical Technologies

Artistic pedagogical technologies

Online instructors need to develop, implement, and evaluate new and creative teaching technologies to maximize interaction, social presence, and community in the virtual class. Our team published preliminary findings related to three such teaching technologies (Photovoice, virtual reflective centres, and conceptual quilting) demonstrating positive educational outcomes (Perry & Edwards, 2005; Perry & Edwards, 2006; Perry et al., 2008). Specifically, both students and teachers reported that their virtual classrooms were effective learning environments, in part because of the inclusion of these teaching technologies (Perry, 2006; Perry et al., 2008). Students reported benefitting scholastically from the
sense of community that arose when they participated in these learning activities. One finding from our preliminary studies that requires further analysis is the link between Photovoice, virtual reflective centres, and conceptual quilting teaching strategies—they are all founded in the arts (visual arts and drama). Why do artistic approaches, which value aesthetics as well as reason (Gull, 2005), seem to facilitate community in the online class?

The worth of the arts has been recognized in face-to-face education. Specifically, art, photography, literature, poetry, music, and drama have been reported as contributing positively to the face-to-face classroom educational experience by stimulating reflection and helping to achieve affective objectives (Brett-McLean, 2007; Brown, Kirkpatrick, Magnum, & Avery, 2008; Calman, 2005; Darbyshire, 1994; Gull, 2005; Maren, 2006; Reilly, Ring, & Duke, 2005; Wright, 2006). However, only one of these reports (Darbyshire, 1994) is research based. Darbyshire found that face-to-face arts-based teaching strategies create a safe environment that stimulates dialogue.

The translation of artistic-based pedagogy to the online classroom seems to be an untested idea. Brown, Kirkpatrick, Magnum, and Avery (2008) declare there is a need to move from established online pedagogies that no longer fully satisfy today’s learner and to “develop and implement alternative interpretative pedagogies” (p. 283). Skiba (2006) concludes that “This generation views learning as a social and constructive activity that must be experiential, engaging, interactive, and collaborative” (p. 103). These qualities seem well matched to APTs.

**Photovoice**

Our research team studied Photovoice in several research pilot projects (Perry, 2006; Perry & Edwards, 2005; Perry et al., 2008). Wang and Burris (1997) developed Photovoice as a participatory-action research methodology. Perry and Edwards transformed this research methodology into an interactive online teaching technology, which involves the instructor posting a digital image and a reflective question at the onset of each unit in the course. Students are encouraged to discuss the question in a dedicated forum. Photovoice is non-graded and optional.
Positive outcomes included encouraging engagement and interest in the course content; making the learning environment more appealing, creative, and interesting; and facilitating the development of social cohesiveness (Perry et al., 2008).

**Virtual reflective centres**

An example of an APT that involves the artistic element of drama is the virtual reflective centre (Ronaldson, 2004). Virtual reflective centres are role-playing simulation exercises that are reported to enhance critical thinking and promote social presence online (Ronaldson, 2004). Cubbon (2008) performed trial virtual reflective centres in an online graduate course for advanced nursing practice students. Cubbon randomly assigned students to either a patient or a nurse practitioner role and gave each student information needed to fulfill the roles during a real-time online “appointment.” As a summation, the instructor distributed reflective questions related to the exercise and hosted an asynchronous group discussion.

Participants in the virtual reflective centre exercise emphasized that it facilitated the development of a sense of community in this virtual classroom because it provided a safe, structured environment in which they could engage in an interactive learning exercise. Students commented that the dramatic element of the exercise helped to make the activity novel and engaging, which motivated socially meaningful interaction (Cubbon, 2008).

**Conceptual quilting**

Conceptual quilting was developed by the authors and has been used in online graduate courses as a summary activity. Students are asked to construct a virtual quilt that is comprised of ideas, metaphors, theories, and other details from the course that they found most meaningful. The “quilt” needs to be in a medium that can be shared electronically with the class.

The construction of the conceptual quilt encourages learners to reflect as they interact again with course materials. Further interaction with the instructor and other students comes when students post
their quilts to an asynchronous online discussion forum and respond to comments. This often results in a resurgence of dialogue around a course theme that was depicted in the quilt. The activity is non-graded and optional. However, participation is almost 100 percent. Anecdotally, students comment that conceptual quilting helps them consolidate their learning and bring closure to the course. From a social interactive perspective, the sharing of the completed quilts is a way for students to acknowledge the impact that others (teachers and peers) have had on their learning.

How Artistic Pedagogical Technologies Encourage Interaction, Create Social Presence, and Facilitate a Sense of Community

We propose that the educational impact of these arts-based teaching technologies arises initially because of the enhanced interactions they help create. The interpersonal interactions among students and between students and teachers, and the intrapersonal interactions between students and self are most relevant to this discussion. These interactions may lead to the experience of social presence, as those in the virtual classroom reveal elements of their personal characteristics and become more “real” and known to one another and to themselves. Social presence cannot be established, indeed cannot exist, without interpersonal and intrapersonal interactions. These do not necessarily take place spontaneously in virtual classrooms. Specific teaching technologies that have social interaction (leading to social presence) as a goal are needed to facilitate this outcome.

Not all social presence is equal. Some social presence is more authentic, perhaps experienced as more “human” or “real” by participants. The quality of social presence that is generated through APTs is described by students as palpably “human.” Because APTs are founded in the arts, which are very human-centred (created by, valued by, shared by, and appreciated by people), they help to facilitate interpersonal and intrapersonal social presence that is less artificial.

Not all interactions are alike in terms of effect on social presence and the eventual formation of community. Frequency of interaction alone

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is not an adequate assessment of interaction levels. While the number of times that students interact with peers, teachers, course materials, and themselves may be important, it is the quality of those interactions that may be most critical to positive outcomes such as social presence and community. For example, a brief e-mail exchange containing superficial greetings exposes little of the values, attitudes, or beliefs of participants. To be meaningful to the establishment of social presence and community, interactions must reveal something important and relevant about participants to others or to oneself.

Further, social presence in the online class needs to be part of a course from the beginning to the end. That is, participants need to establish their initial presence when the course begins, but they also need to demonstrate ongoing participation in the course (Kehrwald, 2008). Teaching technologies such as Photovoice that require student and teacher contributions throughout the course may help facilitate both becoming known to each other at the beginning of a course and provide ongoing evidence of participation. Further, APTs such as Photovoice potentially allow participants to systematically reveal more of their personal values, beliefs, and priorities as the course proceeds. This may facilitate progressively more personal and perhaps more authentic and meaningful social interaction.

Essentially effective social presence in the online class is a dynamic experience. It evolves over the duration of the course with participants becoming more comfortable with one another through ongoing meaningful interactive experiences. Eventually this leads to the establishment of a culture of community.

Kehrwald concluded that the establishment and growth of social presence is related to three conditions: ability, opportunity, and motivation (2008). APTs help to meet each of these conditions. First, ability refers to students being able to reference their own experiences and bring these to the learning community in an appropriate way. Kehrwald emphasizes that novice learners do not come to online classes with this skill; they may not have the ability to send and to read social presence cues. Students need learning activities that help them to gain this ability. For example, with Photovoice, students are
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given a specific non-threatening invitation to share something of themselves. Photovoice becomes both the vehicle for students to establish their social presence in the course, and — because the same strategy is used often in the course — a strategy that teaches students how to share socially in the online milieu. Participants also model this skill for one another, and those students who may be unskilled at sending and reading social presence cues have the option of waiting, watching, and learning how to participate prior to contributing.

The second condition is opportunity for interaction. Opportunities need to be purposefully created in online courses to facilitate frequent meaningful interactions helping to cultivate social presence. Because APTs are used on a regular basis in a course (in the case of Photovoice Weekly), there is a consistent, scheduled opportunity for participants to interact. While opportunities for interaction are easy to create, they need to be such that learners are not overwhelmed by the demands of interaction within large groups (Harrison & Thomas, 2009; Heejung, Sunghee, & Keol, 2009). Most APTs, such as virtual reflective centres, are suited to smaller class sizes to allow for participation by all students. The Photovoice activity requires students to make one or two short responses. Long responses with references are discouraged in this activity. This keeps participants from being overwhelmed by a large number of long posts they feel obliged to respond to.

Teaching technologies that require students and teachers to contribute in a visible way signal that they are available for interactions (Kehrwald, 2008). APTs all have a tangible element that provides these signals. In the case of Photovoice, the evidence of the participation of the teacher is the weekly posting of the photo. Evidence of student involvement is the responses to the Photovoice question. Likewise, the conceptual quilts posted by students are evidence that they are members of a specific educational community. The responses and questions raised in reaction to the quilts are evidence of “attendance” and the involvement of other class community members.

The third condition for the establishment and growth of social presence is motivation. Teaching tools need to motivate students to
participate. Motivation often comes because students believe that participation has some benefit for them. If the activity creates interest, motivation may be enhanced. For example, the Photovoice activity has mysterious elements (one student commented that she never could guess what photo would be hidden under the “electronic paperclip”), arousing curiosity and motivating participation. We speculate that perhaps part of what makes Photovoice motivational is that students find it engaging. It catches their attention; one student described it as a “hook” that captured her interest. Once students are focused on the course theme, the Photovoice activity engages them in dialogue with themselves as they puzzle over the image and think about their response to it. Because there is no correct response to art, their reaction — out of necessity — must be personal. Then, as the class members begin to share their personal responses to the image in the public forum, there is some social expectation (motivation) to reciprocate by doing the same, and a public dialogue results in meaningful social interaction.

Students may be demotivated if they believe excessive time and effort is required to participate. There is no requirement to participate in Photovoice or conceptual quilting, which allows students to lurk without participating. Without exception, in our experience, over the time of the courses all students eventually regarded the Photovoice exercise as worthwhile, and contributed. Keeping class sizes reasonable helps to prevent participants from being overwhelmed by the number of postings related to each Photovoice activity. Students receive positive feedback from peers and instructors regarding their participation in these activities, fuelling motivation.

Vygotsky’s (1978) Social Development Theory (SDT) helps explain how APTs influence interaction, social presence, and the creation of a culture of community in the online class. Teaching and learning, whether occurring in a traditional or virtual classroom, are essentially social experiences. According to SDT, social interaction is fundamental to cognitive development. Consciousness and cognition result from socialization and social behaviour. Vygotsky focused on the connections between people and the socio-cultural context in which they
act, and interact, in shared experiences (Hung, 2001). SDT learning is characterized by mediation through language, the discovery of differing perspectives, and the achievement of shared meaning (2001). Vygotsky’s SDT promotes learning environments in which students play an active role in learning. Teachers, rather than being transmitters of knowledge, collaborate with students to facilitate the acquisition of new knowledge, skills, and attitudes. Learning becomes a reciprocal experience involving oneself and others.

When educators apply SDT to online education, learners require effective teaching tools to facilitate interacting from a distance, particularly with teachers and other students. When effective teaching strategies are used, online learners can achieve social connections with other students and teachers that, according to SDT, facilitate learning (Perry & Edwards, 2006).

We propose that APTs stimulate these authentic human interactions required to promote social engagement in the virtual class. For example, music, artistic images, and literary works are infused with the humanness of the composer, artist, or author. When APTs are part of, or the foundation for, a course activity, they introduce into the course some aspect of another human. While a traditional learning activity in an online course may appear rather barren and anonymous, a song, photograph, or poem is often infused with the values, preferences, and beliefs of the one who created it. We suggest that when another “real” person is introduced into the online course using an APT, the potential for human interaction is enhanced. From the students’ perspective, now there is someone to interact with.

The stimulation provided by the inclusion of such a strategy seems to be a catalyst for interaction for several reasons. One respondent in a study involving the use of Photovoice wrote, “Seeing a new photographic image appear each week in my course forum was like seeing the artwork that might be displayed in my professor’s home. It told me something about her, about how she saw the world. It made her more real somehow and made it comfortable for me to e-mail her and ask questions.” Another student respondent offered a comment that helps to further the explanation regarding how the inclusion of an APT in
a course stimulated meaningful interaction, saying, “I felt like I got to know my professor because of the type of photos that were included in the course. I could tell that she had an appreciation for nature … and probably had a kind heart. I participated more freely because I felt like I knew her from the photos.”

To achieve genuine, appropriate, authentic, interaction that results in substantive discussion, debate, and reflection may require deliberate strategies on the part of the online teacher. We propose that the inclusion of APTs in online course design may precipitate engagement between students, and students and teachers, which — according to SDT — is necessary for learning.

APT s provide an opportunity for meaningful interpersonal and intrapersonal interaction. APT s require a contribution that provides class members evidence of the involvement of students and teachers in a course. Ongoing meaningful interactions facilitate authentic social presence, which lays the foundation for and facilitates the ongoing development of the culture of community. In a culture of community, participants embrace shared values, norms, and beliefs; a shared culture. A shared culture facilitates further meaningful interpersonal interactions, and the cycle is propelled (Figure 7.1).

Figure 7.1 Development of a culture of community in the online classroom
Factors Influencing the Development, Adoption, and Use of Artistic Pedagogical Technologies

Shea identified three foundational changes that have influenced online education: a philosophical shift from objectivism towards constructivism; a theoretical shift from behaviorism towards socio-cognitive views of education; and a pedagogical shift from direct instruction to the facilitation of collaborative learning (2006). Shea argued that these changes encourage teaching approaches that help to develop virtual learning communities (2006). For example, student-centred, learner-directed, interactive, participative pedagogical methods are congruent with the establishment of community in the online class, with social interaction, and ultimately with learning. It follows that the development, adoption, and use of online teaching strategies, in this case APTs, is influenced by these factors.

From objectivism to constructivism

Objectivists emphasize the accumulation of facts, and view learners as passive recipients of knowledge (Kelly, 1970). Differing views and individual experiences are often discouraged (Gulati, 2008).

Constructivists embrace different worldviews and emphasize social relationships and cognitive interaction in learning environments (Goodyear, 2002; Hung & Chen, 2001; Larochelle & Bednarz, 1998). Teaching technologies that encourage learners to construct knowledge through activity and experience are favoured (Jonassen, 1999) over lectures.

Online learning environments are excellent venues for constructivist teaching technologies (Kehrwald, 2008). The potential for connectivity afforded by online communications facilitates opportunities for human-human interaction that, according to constructivists, precipitates learning. APTs such as Photovoice, conceptual quilting, and virtual reflective centres all purposefully create social interaction. In keeping with a constructivist philosophy, such interactive learning may involve the modification of attitudes, beliefs, and knowledge in all participants, including students and teachers. Such modification has been described as transactional (Shin, 2002) or interactivist (Bickhard, 1992).
From behaviourism to socio-cognitivism

Behaviourism focuses on observable and measurable behaviours (Good & Brophy, 1990). For example, Bloom’s (1956) taxonomy of learning is the basis for the development of behavioural learning objectives in which learning tasks are broken down into specific measurable tasks. For behaviourists, the achievement of objectives equates with learning success.

Cognitive theorists view learning as involving internal processes, such as comparing new information to existing knowledge. This makes learning more active and complex. Learning strategies such as metaphors, chunking information, and the organization of instructional materials from simple to complex are used by cognitivists to facilitate learning.

APTs would be viewed favourably by cognitivists. Photovoice activities require students to engage in higher-order thinking, asking that they compare something they know to the theory of the course. For example, if the image presented is a photo of a tree with leaves changing colour, and the topic in the course is factors that influence organizational change, students are asked to recall what they know about weather, light, temperature, and seasonal influences on trees in the autumn, and to translate this into determining factors within an organization that might also create change. An internal thought process is needed, as changes in nature become a metaphor for changes in organizations. Likewise, in conceptual quilting students use internal mental processes to seek and find relationships between key themes in the course, and to find ways to weave these together in meaningful patterns that they can then display and explain.

From direct instruction to collaborative learning

The hallmark of direct instruction is teacher control with one-way transmission of information and measurable learning. Collaborative learning involves joint intellectual efforts by students or students and teachers as they work together to seek understanding, meaning, or solutions. Students depend on and are accountable to one another as they participate in learning activities, and there is usually an end product to the learning activity.
Both a prerequisite for and a result of collaborative learning online may be the establishment of a community of learners. According to Ascough, “one of the key features of an online course is the employment of activities that will allow students to get to know one another better” (2002, p. 13).

APT s can facilitate collaborative learning. For example, virtual reflective centres involve the active participation of all students, as each is assigned a role and invited to participate in a shared experience. Participants depend on one another to play their parts so the activity succeeds. Similarly, in a Photovoice activity, while students initially contribute their own interpretations of the photo, the resulting online discussion becomes a collaborative learning activity as learners work together to formulate common understandings of the relationships between the photo and course topics.

APT s are congruent with the emerging constructivist philosophy of learning. As online educators come to appreciate more diverse ways of knowing and understanding, as we focus more on social relationships in the class, and as we shift from a “world of facts to a world of symbols and models” (Larochelle & Bednarz, 1998, p. 7), educational technologies that have a human element, such as APT s, may become popular.

Conclusion
This chapter provided a new understanding regarding emerging online teaching strategies, specifically, artistic pedagogical technologies. Teaching strategies founded in the arts may assist online educators who aim to make online courses more meaningfully interactive. With meaningful interaction comes the potential for the experience of authentic ongoing social presence and the eventual establishment of a culture of community.

At present, there is limited development of such teaching tools, and research on those that have been developed is in its infancy (see chapter 1). The explanations presented in this chapter regarding why APT s are effective teaching strategies are also only a beginning point. The potential educational impact of such teaching technologies (on students and teachers) has not yet been wholly explored. This chapter
contributes to these discussions and encourages educators, course designers, and researchers to experiment with including aspects of the arts in learning activities in online courses.

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