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Students Influencing Students Within

The “Creativity Lab” Environment

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**Abstract**

Students frequently influence other students within the art classroom environment. Whether in groups or individually, adolescents are often social learners; art teachers who make use of constructivist approaches may capitalize on the social nature of conversation, discussion, and mutual mentoring that takes place in carefully designed classroom settings. The strategy of Problem-based Learning (PBL) is a means of channeling social learning in order to promote critical thinking and creative problem solving in learners while fostering the development of a learning community. This article describes some of the ways that students impact one another's learning and suggests a strategy for utilizing PBL and creative problem solving as part of a student centered art classroom.

## **Students Influencing Students Within The “Creativity Lab” Environment**

Learning doesn't just happen. This is especially true within the often constructivist nature of the art room in which “students must construct knowledge in their own minds” (Slavin, 2003), inferring meaning from historical and contemporary works of art and infusing meaning into works of their own making. Art educators make possible a progression from foundational ideas into student synthesis of authentic stimuli and ultimately into meaningful notions of student constructs. Much has been written about the strategies teachers employ to influence learners in making this transformation real. Little, however, has been acknowledged with regard to that which takes place when students themselves influence one another's ideas, intention, and understanding within the art room environment.

The act of making art is, for many, an intimidating endeavor. At least within the bounds of Western culture, we tend to react in very judgmental ways, often assessing individual acts in very black and white terms: a drawing is “good” or “bad,” one sings “well” or not, ideas are blessed with a “thumbs up” or given a disapproving and unenthusiastically negative denial. Much like finding a pot of gold at the end of a rainbow, great emphasis is placed upon uncovering one single “right” answer. Competition is often a quest for individual glory and reaching the end is the one single-minded goal; slight importance is given to the actual journey or process of reaching the objective. The goal *is* the objective.

Frequently, learners are situated within environments that work well for traditional models of direct instruction but which may not foster creative problem

solving, diversity of solutions, or facilitate the unearthing and adaptation of complex information into their own. It is within the dynamic, rowdy, and often boisterous environment of the art room that a pleasant surprise occasionally unfolds: Students begin to demonstrate an astonishing degree of influence upon one another – under the right conditions resulting in a cultivation of student-centered activity and processes and authentic engagement of critical thinking. To further explore this idea, I have followed questions raised by Elliot Eisner in *The Arts and the Creation of Mind* (2002).

### **What do students do to influence one another?**

Much depends upon the access students have to one another. In the environments I have observed, students with clearly defined goals and objectives who are engaged in a process of learning and discovery – and who are in an environment in which collegial discussion and inquiry is encouraged – have the greatest opportunity for positive effect upon each other. Conversely, learners situated in an environment that is static are discouraged from influencing one another. In a lecture-based environment for example, the primary source of influence is the lecturer/teacher. Unless discussion is a significant component, students are limited in their ability to influence other learners.

Although my observations are anecdotal in nature, I've found that my middle and high school students, given the opportunity to engage in discourse, will discuss a diversity of topics. Themes of conversation may include discussion of the assignment at hand, boyfriends/girlfriends, sports, conflicts, etc. – in short, topics of conversation *very relevant to those particular learners' worlds*. I have found this generalization to be accurate, regardless of whether students are charged with a cooperative learning task or simply chatting during the course of an art making activity.

So, discussion is one way that students influence one another. Discussion may take learners off-task, keep them on-task, or even redirect off-task learners back on-task again. Learners frequently compare ideas, art making progress, and degrees of finish among themselves, many times resulting in personal assessments of value: “You’re good,” “I’m terrible at drawing,” “That doesn’t look anything like me,” “Wow, can I have that when you’re done?” Within group situations, discussion is a key component of discovery, planning, and reflection and the dynamic of discussion determines who will do what (leaders, do-ers, free-riders) and how a particular project will proceed.

I have observed some student dialogue that addresses aesthetic issues; more frequently, art making conversations between students seem to be problem/solution-based or technique-based. Students may influence each other by providing assistance in guiding one another or by sharing ideas. It is not unusual for a particular discovery of a unique art making technique to spread rapidly around a table or to even “jump” from one table to another – and in doing so, to evolve...so much so that the evolution may become a different technique altogether.

Sometimes students act as “mutual mentors” – influencing each other in compatibly different ways. Other times the influence is manifested when learners ignore another student, or when bullying or teasing takes place. Such incidents result in an environment that is “unsafe” for learners to experiment or to make mistakes: the net result is a negative influence on learners.

### **How do students influence the learning of one another?**

*Zone of proximal development.* Frequently, I arrange my students into small groups of three or four learners, each charged with a common goal fitting within their

zone of proximal development. Slavin (2003) says that “children are working within their zone of proximal development when they are engaged in tasks that they could not do alone but can do with the assistance of peers or adults.” By carefully blending top-down processing (in which students begin with a difficult quandary, define the problem, and then develop the basic constructs required to solve the problem) with bottom-up instruction, learners engage in a modified process of Problem-Based Learning (PBL). Learners rely on their peers in a cooperative arrangement infused with mutually-beneficial objectives. Carefully designed, this arrangement allows learners to collectively perform at a slightly higher cognitive level than each individual might have separately. Learners are both self- and group-reliant; peers influence – and are influenced by – peers.

*Cognitive apprenticeship.* Although this constructivist approach generally refers to “the process by which a learner gradually acquires expertise through interaction with an expert, either an adult or an older or more advanced peer,” students with access to one another may occasionally find themselves in a cognitive apprenticeship relationship. Especially in the middle school and high school environments, some students demonstrate greater apparent natural aptitude or ability than others. Such students may have specific influence upon others within their proximity. Conversely, the art room community may find among its population a learner who, for whatever reason, is not engaged. This student may influence others through distracting activity or through lack of involvement. Particularly with adolescent boys, this type of influence might result in a sort of anti-cognitive apprenticeship. For this reason, I try to mix my student groups with a variety of aptitudes: I don’t want to ungenerously create and single out a “good” or a “bad” group of learners.

*Mediated Learning.* Vygotsky placed great emphasis on scaffolding, or mediated learning, recognizing that cognitive growth occurs only when prior learning is used as a sort of “ladder” in the acquisition of new knowledge and understanding. Learners who have access to one another will influence each other when they “are exposed to their peers’ thinking processes...successful problem solvers talk themselves through difficult problems. In cooperative groups, children can hear this inner speech out loud and can learn how successful problem solvers are thinking through their approaches” (Slavin, 2003). Especially in situated learning – authentic tasks – learners may provide a great deal of influence through discussion, conversation, and articulated thought related to problem solving.

Based upon observation, my less-than-comprehensive list of student aspects that influence the learning of other students includes:

- Diversity of discussion
- Observable activity or engagement
- Articulation of ideas
- Observable processes
- Social learning
- Mixed abilities

**What environments encourage students to influence one another?**

Traditional learning environments emphasize “bottom-up” methodologies in which foundational knowledge is progressively replaced by the transfer and acquisition of more complex knowledge. Constructivist practices underscore difficult, authentic tasks that require learners to work out (with the teacher’s support) what skills or knowledge is

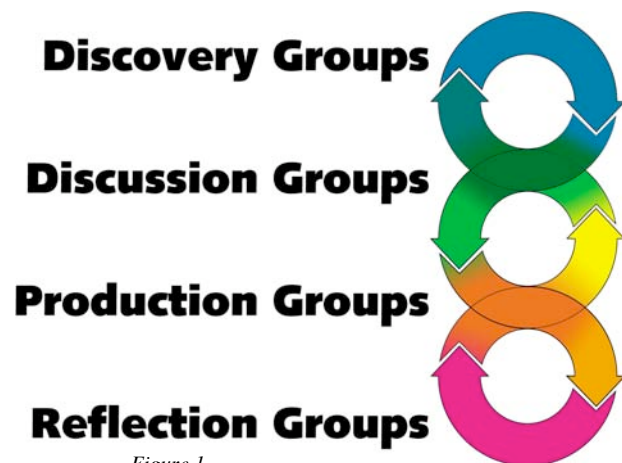
required to create a solution. This “top-down” approach encourages students to begin by defining a problem – rather than starting with a basic skill set. Often, such problems are suggested or developed by the learners themselves and are unlikely to be solved by single learners on their own. However, the top-down strategy encourages input from the collective, encouraging a transformation of various ideas into a multiplicity of possible solutions with immediate feedback.

Slavin (2003) indicates that constructivist strategies accentuate cooperative learning “on the theory that students will more easily discover and comprehend difficult concepts if they can talk with each other about the problems,” stressing the social nature of learning, especially within the group model.

Environments that are designed to encourage learners to explore and uncover ideas and evidence for themselves are an excellent means of encouraging an outcome of student-swaying-student-learning.

Problem-based Learning (PBL) “is an approach to teaching and learning that allows problem exploration...the basic premise is that students take responsibility for their own learning in a true problem-based learning

environment; researching, discussing and reflecting” (Kowalczyk & Leggett, 2005). PBL is a divergence from traditional teaching methodologies in that it advances the principle of active student involvement “in the learning process in the context in which they apply the knowledge...the primary learning activity taking place is problem solving, not



*Figure 1*

memorization...and encourages students to identify several potential solutions”

(Kowalczyk & Leggett, 2005). In *figure 1* I illustrate a modified version of classical PBL strategy that I have successfully employed within middle and high school art classrooms to encourage an environment of student-centered inquiry.

Using this strategy, learners work in small groups – usually comprised of three or four individuals. Each group is assigned a complex task but given an ill-defined means of reaching their goal. Although groups are assigned equally complex undertakings, *they may not always be assigned the same problem as other groups*. Groups go through four stages of problem-solving, the first of which is “Discovery.” Learners work collaboratively to explore the problem and to *define* the problem “to get a student to think...for himself...to take part in the process of knowledge-getting. Knowledge is a process, not a product” (Bruner, 1966). Thumbnail sketches may be developed in a variety of forms during this time. Exploration of various ways to approach media and materials may take place and learners are encouraged to have fun with the media.

Learners enter the second stage, “Discussion,” to connect new knowledge with old and to recognize what all group members know and understand. Through discussion, learners come to a consensus of how to define the problem and multiple ways of approaching solutions. Learners examine what they know and determine whether or not it is appropriate for each to revisit the process of discovery. Sketches, scripts, maquettes, and other forms of visual/verbal articulation may be developed, discussed, re-arranged, and re-developed during this time. Roles are defined and learners are encouraged to have fun with the ideas. Part of what makes the process work well is the explicit encouragement of students to share – when anyone learns or discovers something new

they are urged to “pass it on” to other learners. This fosters an ongoing cycle of learning enterprise that I refer to as “students as teachers.”

Learners proceed into the third collaborative stage, “Production,” when they reach agreement about the problem, ways and tactics for proceeding, and develop a plan or a way of thinking for approaching the process of art making. Learners may work cooperatively or individually during the production stage, depending upon how decisions have been made about the problem-solution context. Tasks may be divided up, roles are re-defined: most importantly, students are encouraged to have fun, occupied as they are in the process of art making, imagination, and creation.

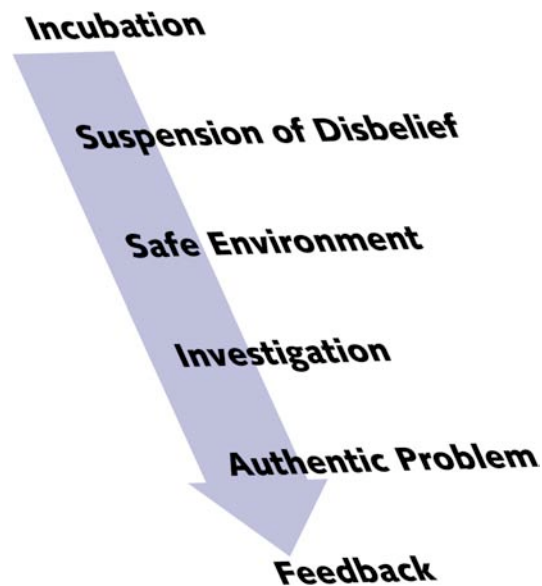
Most mature art makers engage in a process of self-reflection with their art making endeavors. Stage four is precisely that: “Reflection.” Learners are encouraged to engage in discussion revolving around what worked, what didn’t, what was enjoyed, what was important about the process, etc. Key to the entire process is the way in which students assume responsibility for the acquisition of the requisite knowledge basic to creating multiple solutions; the teacher is a catalyst in a process in which student peers function as primary influencers.

#### **Fostering an atmosphere of creative problem solving.**

If this particular PBL strategy is used often, I believe that some learners might begin to fall into a pattern of approach to problem solving. Piaget and Vygotsky, as noted in the seventh edition of *Educational Psychology*, both felt that essential components of constructivist-influenced learning “takes place only when previous conceptions go through a process of disequilibrium” (Slavin, 2003). To avoid having students fall into rote methodology, I propose the following:

- Utilize PBL on large projects in which groups of students can invest their time and effort to a mutually beneficial and clearly defined end objective rather than in practice of basic skills. Furthermore, such projects should be relevant to the lives and interests of all groups and group members.
- Maintain an atmosphere of a “creativity lab” within the art classroom. Emphasize experimentation and problem solving primarily within the group and consequentially within the larger classroom discussion (Aukerman, 1997) to allow for the creation of small learning communities and for group ownership and recognition to take place.
- Follow a strategy for teaching creative problem solving that cultivates “out-of-the-box” thinking in learners, rather than “me too” tactics.

My observation is that learners situated in a “safe” learning environment – designed to promote experimentation without fear of reprisal for mistakes or articulation of ideas – enjoy following a practice of creative problem solving. Student discussion flourishes and the “teachers-as-students” attitude is prevalent, often spilling over into smaller foundational lessons. Learners talk to each other and often find ways to incorporate meaning and understanding by attaching relevant life experiences to the problem-solving task at hand. In *figure 2*, I outline a strategy for creative problem solving, modified from models described by Beyer



*figure 2*

(1997) and Frederiksen (1984). In this adapted model, six conditions must co-exist for creative problem solving to occur within a student-centered, constructivist learning environment. I think it is important to note that these are not a sequence of steps or linear progression of conditions, but individual states that must be synchronously present.

- *Incubation* is the process of initial reflection, allowing for due consideration – or “incubation” – of a problem and its multiple potential solutions.
- *Suspension of disbelief* is the principle that *any* idea is potentially achievable and is possibly a “good” solution to the problem at hand. Without this condition, brainstorming cannot take place and ideas cannot germinate.
- *Safe environment* is described by Tishman as “a relaxed, even playful environment” (as qtd. in Slavin, 2003), that advances experimentation and where the fear of mistakes is not present.
- *Analysis* is a mode of creative solution finding that asks for learners to consider not just the obvious solutions but also to negotiate “back-door” elucidation as well.
- *Authentic problems* are those that engage learners in ways that are often directly relevant to the learner/art maker’s own life experiences. Dewey was the first of many to identify “the motivational value of connecting problem solving to real life” (Slavin, 2003).
- *Feedback* – before, during, and after the introduction of problem solving activities – is vital to the practice of learners identifying potential solutions as well as to informing the process by which learners reached the resolutions, along with those they chose to reject from consideration (Swanson, 1990).

Adolescent students are often social learners, especially within environments that foster discussion in safe, playful classroom communities. Art classrooms have particular potential for social learning to take place when students are engaged in the dynamic nature of experimentation. Especially when students have access to one another, peers can influence peers in positive ways, arousing “students’ curiosity, motivating them to continue to work until they find answers. Students also learn independent problem-solving and critical-thinking skills, because they must analyze and manipulate information” (Slavin, 2003). And when learners define problems for themselves and make them “real,” the nature of the problem/solution strategy becomes more relevant. Students working together in engaged discussion comprise a relationship of greater authenticity, meaning, and personal insight than might be otherwise present in lecture-driven environments of direct instruction. Likewise, students who explore, learn, and then *share* what they have discovered, may influence proximal learners in positive, scaffolded ways.

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