Supportive Classroom Environments
For Creativity in Higher Education

By

Darnell G. Cole, Heather L. Sugioka, and Lisa C. Yamagata-Lynch,
Department of Educational Leadership and Policy Department of Educational Psychology and Department of Sociology
Indiana University

Please note equal contribution by authors.

A version of this paper will be published in the Journal of Creative Behavior
Abstract

This qualitative study was an investigation of a supportive classroom environment for developing student creativity. Observations and interview data collected focused on assessment, classroom activities, and the teacher’s effort in creating this supportive environment. Teacher-student relationships, de-emphasizing standardized assessment, and encouraging multiple perspectives was significant to this creative milieu.
Supportive Classroom Environment

Introduction
Creativity is an important element in relation to education and societal growth. As the degree of complexity and the amount of information in our society continue to increase, society's problems require more creative solutions. For this reason, all sectors of society are requiring leaders who can think critically and creatively (Isaksen & Murdock, 1993). Although this important construct has not been universally defined, defining creativity as "the production of novel thoughts, solutions, or products based on previous experience and knowledge" (Gandini cited in Carter, 1992, p. 38) seems to capture the essence of creativity.

In terms of education, creativity is an essential element necessary for learning. Starko (1995) suggests that learning is a creative process that involves students making information relevant by linking prior knowledge and new knowledge in an individually meaningful format. She attributes this meaningfulness to the individual's creativity. Unfortunately, most school environments do not support, and many actively suppress, creative expression. Torrance and Safter (1986), for instance, assert that teachers are often ill equipped to develop, support, or evaluate creativity in their students. In addition, much theory and research shows that creative students often lose their creative potential (Shaughnessy, 1991). If education strives to prepare children for a productive life in society, the educational system must accept responsibility for supporting and developing creativity. The purpose of this study was to explore the characteristics comprising a supportive classroom environment for creativity. Within this context, we focused on the teacher's role in creating this supportive environment.

Literature Review
Shaughnessy (1991) recommends an educational climate consisting of communication, consensus, consistency, clarity, coherence, consideration, community, cohesiveness,
Supportive Classroom Environment

commitment, concern, care, and cooperation (p. 9). Research has shown that environments that encourage independence, risk-taking, and intrinsic motivation have been found most conducive to creativity (Anderson et al., 1970; Hill & Amabile, 1993; Richardson, 1988; Shaughnessy, 1991). In creating this type of environment, it is recommended that teachers accept and encourage creative thinking, tolerate dissent, encourage students to trust their own judgments, emphasize that everyone is capable of creativity, and serve as a stimulus for creative thinking through brainstorming and modeling (Torrance & Myers, 1970; Woolfolk & McCune-Nicolich, 1980).

Several articles, reports, and books investigate methods of teaching creativity in the classroom, but few focus on the importance of building teacher-student relationships in a creative environment (Endo & Harpel, 1982; Pascarella, 1980). Morganett (1991) states that quality teacher-student relationships can encourage students to be active learners in the classroom, which will foster creativity. Furthermore, creativity can be fostered by positive teacher-student relationships, as suggested by Carter (1992). Astin (1993), Fleming (1984), Pascarella (1980), and Terenzini and Pascarella (1980, 1991) have reported that teacher-student relationships are extremely important to college student development regardless of the classroom context.

In a qualitative investigation about creative teaching and learning, Torrance and Myers (1970) found when teachers create a ‘responsive’ classroom environment students are less apprehensive about their creative expression and sharing those ideas in class. A ‘responsive’ classroom environment is optimized when teachers are “respectful of unusual questions, respectful of imaginative and unusual ideas, show [students] that their ideas have value, occasionally have pupils do something ‘for practice’ without the threat of evaluation, and tie in evaluation with causes and consequences” (p. 253). Based on these studies, four themes
emerging from the literature offer much insight into the importance of teacher-student relationships in a creative classroom environment: (a) perceptions and expectations, (b) communication, (c) personal experiences, and (d) classroom activities.

Perception and Expectations

DeLucia (1994) reports that assumptions, expectations, and perceptions impact attitudes and behaviors in building teacher-student relationships, regardless of whether these perceptions are ‘real or distorted’. Student misconceptions can also function as an inhibiting factor in building teacher-student relations (DeLucia, 1994; Meyer, 1994). Therefore, it is imperative to teacher-student relations that expectations and perceptions are dealt with directly.

Hutchinson and Beadle (1992), however, report that teachers often transmit their expectations through unintended nonverbal cues and that students are often unaware of these expectations. For example, DeLucia found that teachers expect college students to be self-motivated and self-reliant. If the teacher does not perceive the student in this fashion, the student is considered ‘passive’ or ‘difficult to work with.’ This perception may or may not be an accurate interpretation of the student, yet it still has a negative impact on the teacher-student relationship. Carter (1992) states that teachers must identify their own filters and agendas that might inhibit their willingness to establish teacher-student relations, especially in a creative environment.

One salient solution is direct and intentional communication. DeLucia (1994), Shapiro (1993), and Torrance and Myers (1970) suggest that providing more information in class discussions about the roles and expectations would positively impact these perceptions and expectations. Thus, it becomes imperative that communication be realized and utilized in a variety of capacities.

Communication
Hutchinson and Beadle (1992) state that “teachers can ‘turn on’ or ‘turn off’ students by their communication styles” (p. 405). They also suggest that the teacher’s communication style is related to student satisfaction and achievement. Communication in the classroom as they have described it includes feedback, directing, questioning, and explaining. Other forms of communication are important, but the immediate feedback and feedback on assignments tend to have the most impact (Hutchinson & Beadle, 1992). Morganett (1991) suggests that teachers provide positive constructive criticism in creative classrooms when appropriate. This practice will foster a comfortable and safe environment which will enhance the sharing of creative ideas and thoughts (Shaughnessy, 1992). Morganett (1991) states that teachers can recognize effort, cooperative and helping behavior, which will also promote a supportive classroom environment. This nurturing environment encourages students to trust their own judgment, while providing support and guidance (Shaughnessy, 1992). Providing both verbal and written positive feedback either in class or on assignments is also important.

Morganett (1991) states that teachers should communicate to students that they care about them as individuals as well as a class. Students want to know that their teachers have a vested interest in them academically, but more importantly - personally. Morganett (1991) asserts that this personal interest is important in building teacher-student relationships because “when we [people, teacher, or students] feel accepted by others we have the feeling that they care about us . . . we are more likely to cooperate with them and try to please them” (p. 261).

Personal Experiences

Carter (1992), Morganett (1991, 1995), and Shaughnessy (1991) report that when teachers include their personal experiences and allow students to share personal experiences in the classroom, students have a greater opportunity to relate to the course. Additionally, Wilson,
Wood, and Gaff (1974) state that when students are able to relate their personal experiences to the course content, they tend to be more active in the learning process. Carter (1992) cites Gandini, stating that “one of the premises of creativity is that the process of knowing finds connections with the process of expressing what is known” (p. 39), which implies that students are more able to express what they know if they can relate their knowledge to information from their experiences.

Morganett (1995) provides five examples of personal experiences, which can be used to enhance the teacher-student relationship in the classroom, especially in a creative environment. First, at the beginning or end of class, ask students about current events, magazine or newspaper articles, or personal events that could be tied into the class discussion. Second, use work time during class to talk with students individually about their assignment or even personal matters. During this time, Morganett (1995) suggests that giving at least one positive comment during the interaction will promote positive teacher-student relations. Third, take the opportunity to wish the class or individual students a good week (at the beginning of the week) or a good weekend (at the end). Fourth, take advantage of any irregulars in the time schedule to talk with students about their interests and activities, while sharing some of yours. Fifth, use discussions or short presentations for students to talk about topics decided by the class, hobbies, or other interesting experiences and life goals.

Assessment

For students to become creative within educational contexts, creativity needs to be supported in the classroom. Creativity has been identified as a high-risk job for students (Smith, 1991; Kawenski, 1991). Being creative in traditional classrooms is often difficult for students because they become “afraid to take risks, afraid to explore new ideas, and afraid to fail” (Kawenski,
1991, p. 263). Smith (1991) states that students need to be prepared for “risk of ridicule, of rejection, or of severe resistance to a new idea when they are being creative” (p. 271). Traditional educational systems have allowed students to feel more comfortable by not being creative.

Berenson and Carter (1995) describe assessment as one of the components in the current educational environment, which prevents students from taking risks. They suggest that traditional methods of assessment have contributed to students’ pursuits of grades rather than pursuits of learning. Broadening the system to include assessments that provide an opportunity for students to make conceptual connections and reflect on understanding can refocus students toward the pursuit of learning. (p. 182)

The current educational system would benefit from understanding creativity as a more personally based construct than evidenced by traditional measurements used for assessing student knowledge. Berenson and Carter (1995) promote the use of journals, open-ended problems, portfolios, interviews, and performance assessment as measurements which allow students to “discover that the new rules of grading alternative assessments reward their unique contributions rather than their short-term memories” (p. 182).

When speaking of the criteria for judging students’ creative products, Sobel and Rothenberg (1976) cited in Reis and Renzulli (1991) state that, “the major responsibility for assessing the creativity of a product is placed on the values and experience of the judge(s). Usually no specific guidelines are available to those doing the judging” (p. 128). This statement reveals that assessing creativity places much responsibility on teachers, who need to find new methods and create their own guidelines while remaining supportive of their students.

Classroom Activities
Shapiro (1993) suggests that the proper selection of classroom activities can create a positive classroom climate in which values can be shared and challenged, expectations revealed and discussed, and students can have the opportunity to take leadership roles in the class. In this type of classroom setting, students are more apt to take risks and share their creative ideas. In supporting creativity through classroom activities, teachers need to address common misconceptions about creativity and teach creative processes and methods of enhancing students’ creative expression. Creativity in education has been hindered by a common misconception of creativity as mysterious (undefined), magical (only certain people have the “gift”), madness (to be creative you have to be strange or abnormal) (Isaksen, 1987), and even a one-step process consisting of a “eureka” moment (Wright, 1990). These beliefs have hindered the teaching of creativity.

Despite these misconceptions of creativity, teachers can create a supportive environment for creativity by encouraging students to see creativity as a learned process, which can be attained through effort and practice (Wright, 1990). Several process models have focused on problem-solving, unconscious elements, and perceptual aspects of creativity. For example, the Parnes/Osborn model (CPS) has outlined a series of problem solving steps based on the balanced integration of divergent thinking, or originality, and convergent thinking, or synthesis (Treffinger & Isaksen, 1992). This process includes formulating a problem, generating ideas, and evaluating these ideas. Wallas (1926) emphasize an unconscious element through an incubation stage, in which the creator leaves the problem, but continues to consider it subconsciously. Finally, O’Neill and Shallcross (1994) have emphasized creativity as a perceptual process, in which steps are taken to tap the unconscious mind and perceptions.

Method
Graphics Communication Course

This study was conducted during the spring semester of 1996, within the context of an advanced level graphics communication course offered at a large Midwestern University. The course was oriented toward junior and senior journalism majors, and a total of 18 undergraduate students varying in class standing and artistic ability were enrolled in the class. The instructor possessed several years of experience in offering this particular course, and also had two decades of experience in reporting photography, copy editing, picture editing, and graphics editing. The major course objectives outlined in the course syllabus in order of importance were (a) creative process, (b) graphic design theory, and (c) computer skills. Enabling students to synthesize these elements was a long-term goal of the class emphasized by the instructor. The classroom in which this course was taught seated a total of 20 students. Each desk contained a graphic design computer equipped with the appropriate software for producing assignments in this course.

Data Collection

This study was conducted in a naturalistic setting where the following qualitative methods were employed as data collection methods: document review of the course syllabus, instructor interview, six student interviews, and classroom observations. The syllabus was examined with the assumption that it provides the student with the instructor’s intentions and directions for the course. This data provided information on student-teacher relationships, methods of assessment, communication of this assessment, creative processes taught, and students’ responses to these processes. Observations and the syllabus provided information useful in devising questions for the interviews. Separate sets of questions for both the instructor and students were used for the interviews. We analyzed the data by coding units of information and developing categories emerging from this data.
We triangulated our findings by conducting multiple data collection and by conducting our study as a team. All three researchers were equally involved in the data collection, analysis, and interpretation phase. The major limitation of this study is that no follow-up interviews or survey data were collected to provide member checks of the interpretations we made. However, each member of the research team first independently analyzed the data before joining the team with their summaries and interpretations of the findings.

Results

The following four areas emerged as important characteristics of the supportive environment for fostering creativity (a) personal teacher-student relationship, (b) assessment, (c) openness and freedom of choice, and (d) classroom activities. To highlight the elements in this supportive environment, a summary of results is presented in Table 1 containing categories of instructor’s intentions, instructor’s implementations, and student reactions. These categories were chosen because they captured the dynamic interactions taking place in the college classroom.

Insert Table 1 Summary of Results: Instructor’s Intent, Implementation, and Student Reactions

Personal Teacher-Student Relationship

Personal teacher-student relationships are thought to be inclusive of common teacher-student interactions within a classroom environment, and portray the care that the instructor has for students’ cognitive and intellectual development. This description is not typical when using terms such as relationship, but it does highlight the affective (emotional) nature and caring attitude that the professor has for students and shows how integral the relationship is in cultivating students’ personal and cognitive development. Thus, we have noted that the instructor
placed much emphasis on establishing a personal relationship with students as an essential aspect of a supportive environment. For him, personal relationships with students ensure that students feel respected as individuals. Dr. Wilson stated that, “students need to have contact with their teacher and that they need to feel that their teachers think about them as real individuals, not as numbers.” In creating these personal relationships, the instructor used a variety of strategies, including learning students’ names and listening attentively to their opinions. One reason for this emphasis on personal relationships stems from the professor’s belief in the power of teacher-student relationships in enhancing students’ creativity. He views his role in supporting creativity as being an audience for students and giving them feedback, rather than an authority figure on creativity.

Students revealed that they perceived and appreciated the instructor’s practice of building personal rapport. One student named Joe said that, “[Dr. Wilson] is so laid-back and pretty personal . . . he always stresses that he is there to help us . . . it is almost like a friendship.” When students were asked “How often do you communicate with [the instructor]?” Emily responded by saying, “he has been a great professor . . . he is easy to get a hold of . . . either go to his office - he is always around or e-mail him.”

Dr. Wilson viewed the social context of the classroom as an important source in creating a personal environment. For this reason, he used several methods in enhancing the social context as a source of support. One method of creating a personal environment was to rely on traditional lecture as little as possible. Dr. Wilson would often lecture for five to ten minutes and then encourage students to put this theory into practice. When referring to this teaching style, he stated, “it is just a matter of being personal instead of having a wall or barrier between the teacher and student.”
Overall, Dr. Wilson established a comfortable and personal environment in which he communicated respect and caring for students individually. In conveying this respect, he used effective methods such as learning each student’s name, listening attentively, and making himself accessible. He also provided feedback by assuming the role of audience, which implies a non-judgmental attitude and emphasizes active listening, followed by constructive feedback. Students noticed and appreciated these efforts, describing him as supportive, accessible, and as challenging their thinking.

Assessment

Dr. Wilson’s method of assessment was an important factor in creating a supportive college classroom environment by de-emphasizing grades and standardization. An emphasis on assessment can create a focus on performance, reducing students’ desire to take the risks necessary for creativity. Therefore, an important element of the environment portrayed by this class was the instructor’s de-emphasis on grades. Dr. Wilson felt that grades are a hindrance to all types of learning and are especially detrimental to any type of learning that requires risk-taking.

In supporting individual creativity, Dr. Wilson relied on non-standardized methods of assessment. No standard examinations were given in this class, and assessment was determined by four factors: (a) the students’ creative solution to the problem; (b) how well the students executed the solution; (c) how much work the students put into the assignment; and (d) the students’ written analysis of their creative processes. Through these methods, learning was portrayed as an ongoing process, which should confer personal satisfaction for its own sake. This view resulted in an emphasis on intrinsic rather than extrinsic motivation. The instructor also
maintained an amiable attitude of the projects created by the students, which further reduced the element of evaluation.

Students noticed and responded positively to the lack of focus on assessment, indicating that this aspect of the class made them feel more comfortable in expressing creative ideas. For example, another student Rachael stated, “It’s the kind of environment where you’re completely unafraid to spit out your ideas.”

The interviews with Dr. Wilson revealed that his views on assessment and communication to students about evaluation played an important role in designing a supportive environment for creativity. He viewed traditional exams as counter-productive to creativity, and communicated this view through the organization of alternative assessment activities. Grading based on creative solutions and effort rather than exams served to individualize assessment and turn students’ attention toward learning and creative expression rather than evaluation. As a result, students perceived the professor’s view of assessment as non-threatening and felt free to be creative and take risks.

Openness and Freedom of Choice

Related to his views on grades and performance, Dr. Wilson also encouraged independence and freedom of choice, enhancing students’ ability to find their individual creative style. In creating a comfortable and safe environment, Dr. Wilson promoted a diversity of ideas, often reminding students that in his class, there was no one right answer. This openness contributed to creating an environment conducive to risk-taking. The syllabus clearly conveyed this sentiment, stating, “Finally, in case there still might be some doubt at this point in the semester, there is no right answer!”
Students felt that the element of openness and acceptance helped them in expressing creativity by providing a sense of flexibility. Because they were not searching for a particular answer or the teacher’s “correct” view, students were free to consider many ideas and perspectives. One student identified the acceptance and flexibility of the class as the most supportive aspects of the environment.

One method that the instructor used to create this open environment was to integrate choices into the assignments while maintaining a degree of guidance through outlining basic requirements. For example, an option common to all assignments allowed students to invent alternatives to the suggested options.

Although not all students utilized the open option, students appreciated the freedom and independence incorporated into the assignments. Rachael felt that the freedom inherent in the assignments helped her to think more creatively, although she did not use the option to create her own assignments. Karen, on the other hand, chose the open option for all of her assignments.

Overall, the combination of freedom and basic guidance contributed toward an environment conducive to creativity. Allowing choices was possible due to the absence of standardization in evaluation and contributed to the atmosphere of individual expression and personal growth. Although not all students took advantage of the multiple options, they valued the free atmosphere provided by the presence of these options.

**Classroom Activities**

Instruction in creative processes such as divergent and convergent thinking represents an essential element in a creative learning classroom. As a precursor to focusing on these processes, Dr. Wilson first worked to banish the prevalent myths about creativity by conveying the message
that creativity is accessible to all students, stating that if students followed steps leading toward
creative processes, “. . . you cannot avoid being creative.”

Dr. Wilson described his teaching of creative processes as a combination of divergent and
convergent methods, with more emphasis placed on divergent thinking. He felt that throughout
their years of formal schooling, students are required to engage in convergent rather than
divergent thinking. For this reason, he required students to generate a wide range of ideas before
selecting one for refinement.

Some techniques designed to provoke ideas included brainstorming, thumbnail sketches,
matrixes, and small groups. Brainstorming is a process in which students focus on producing as
many ideas as possible, waiting until after this process to evaluate these ideas. Thumbnail
sketches allow students to visually experiment with ideas by drawing rough sketches before
working on the final product. Matrices are a set of cells in which students write ideas and
juxtapose these ideas with one another by matching the cells. Small group work was another
method of enhancing creative processes. These groups were free to negotiate their own
delegation of responsibilities, and Dr. Wilson acted as facilitator. These methods provided
instruction in divergent thinking by encouraging students to generate ideas in a playful manner.

Convergent thinking was also considered an important aspect of creativity. To integrate this
type of thinking into the creative process, Dr. Wilson encouraged students to engage in research
before beginning divergent thinking. Synthesis, or the process of merging separate ideas into a
coherent product, was incorporated into the class through the integration of technical aspects of
design.

Students generally expressed an appreciation for the classroom activities in supporting the
development of creative processes. Most of the students we interviewed reported that they
particularly benefited from understanding creativity as a process, and from the divergent thinking exercises. For example, Rachael valued understanding creativity as a step-by-step process rather than a spontaneous moment. She states, “… a lot of people think that creativity is when something just kind of comes to you … but that’s not really it — it’s just a matter of working through … he goes step by step. It helps us to be more creative.”

Student responses to group work portrayed mixed feelings. Rachael expressed enthusiasm for the multiple perspectives gained in small groups, although she felt that the possibility of a ‘bad group’ represented a disadvantage. Although other students could see the advantage of pooling ideas, Joe felt that group work compromises individual creativity, and Clark described group work as “time consuming.”

Individual students valued different aspects of the class exercises and showed a variety of needs in developing their creative process. For example, Kevin evidenced different needs in learning to be more creative. Because he had entered the class with a background in art, he focused on more advanced techniques not explicitly taught in the class. In describing his creative process, Kevin portrayed a highly visual process based on perception and images. However, Kevin also appreciated the acceptance of more than one right answer. When asked to choose the creative technique which he found most helpful, Kevin stated that the idea of trying different and even inferior ideas was the most helpful because the process of experimentation allowed him to see aspects which he would not have noticed otherwise.

Dr. Wilson supported students’ creative growth by teaching creativity as a process which can be enhanced using many different techniques, focusing on developing students’ divergent thinking ability. While all students responded positively to the class, their answers portrayed individual differences in learning needs, although all students benefited from the open
environment of the class. Overall, students benefited from the classroom activities and creative processes in this class.

Discussion

Dr. Wilson shaped a multifaceted, supportive environment for creativity through his efforts in establishing positive relationships with students, methods of assessment, and classroom activities. A common theme running throughout all aspects of this college classroom was his respect and support for individual student expression. Striving to know each student individually, encouraging multiple perspectives, and teaching convergent as well as divergent thinking processes all portrayed the student as an individual and encouraged students in developing their unique creative potential.

The teacher-student relationship evidenced in this classroom was primarily centered on the care that the instructor expressed for students’ cognitive and creative development. Another aspect that shaped teacher-student relationships was the personal rapport, which the professor established with each student. Dr. Wilson often initiated one-to-one interaction as a way to establish a level of comfort in the classroom while encouraging students to feel free in taking risks. Due to his desire to make this classroom more comfortable, many students either reciprocated in behavior or were appreciative of the teacher’s effort to think of them as "real individuals and not as numbers." This student-centered approach to teacher-student relationships is often indicative of many effective classroom relationships, and implies that students value the opportunity to interact more closely with the teacher. As illuminated within this creative context, it may also imply that students value their independence in the classroom and their freedom to express their creative ideas without fear of interpersonal judgment. Notably, this individual
approach may be more difficult in larger college classroom. However, it is still an important classroom goal for the teacher when creating a creative learning environment.

The role of assessment is extremely powerful in classroom settings, and it re-emphasizes the power dynamic between the teacher and student. The power dynamic in college classrooms often remains unchallenged. In expressing sensitivity for these power dynamics, Dr. Wilson altered his course to be more sensitive to students' feelings toward grades rather than using grades as a prodding device for guiding and directing students to perform a required set of expectations. Consequently, he encouraged students to feel a certain amount of freedom or comfort for taking risks and expressing ideas and thoughts that may not conform to 'normal' standards in other post-secondary classrooms.

The classroom activities also represented another important element of this supportive environment. These activities were designed in ways that challenged students' current perception of creativity as a 'one moment' in time expression and changed these perceptions to view creativity as a process that can be cultivated and developed within the context of the classroom. School systems, and more specifically, college classrooms often overlook the impact of creativity on the process of learning, and only recognize creativity when it is framed in an extreme example (e.g., a student who is gifted in writing poetry). In this classroom, however, Dr. Wilson has specifically focused on divergent thinking through various classroom activities as a perspective influencing the students’ view of creativity and the creative process.

Conclusion

This study was framed with the purpose of identifying characteristics comprising a supportive environment for creativity in a college classroom. However, future development of this environment would also benefit from research in both the individual student level and classroom
community level. Future research at the student level should concentrate on the creative
development of individual students. The current study revealed differences in individual needs
for the creative processes taught in this class. Second, these finding indicated the need to
investigate methods of designing group work supportive of the creative process, and the need for
accurate evaluation of group work, from the students’ perspectives.

Third, further investigation, at the broader classroom level, should explore dynamics of
teacher-student interaction and examine student’s influence on shaping the classroom
environment. Because this study focused on the professor’s influence, students’ impact on
shaping the environment was not discussed. Fourth, research determining the effects of various
assessment methods on creativity are needed, especially considering the importance of
assessment in influencing all aspects of the college classroom. If research finds that non-
traditional grading significantly enhances creativity, policy measures will need to address issues
of standardization and grading, and changes in post-secondary institutions will be necessary. In
the meantime, teachers are responsible for giving grades to students, and therefore need to cope
with current policies. For this reason and our final implication, research examining additional
methods for coping with this requirement while simultaneously implementing low risk
assessment methods as part of a supportive environment for creativity will also be needed.
References


J. Treffinger (Eds.), *Understanding and recognizing creativity: The emergence of a discipline* (pp. 299-330). Norwood, NJ: Ablex.


Acknowledgments

We are grateful to Dr. Curtis Bonk, Dr. Jonathan Plucker, and Dr. Claude Cookman for their support and suggestions during the preparation of this paper.
Table 1

Summary of Results: Instructor’s Intent, Implementation, and Student Reactions

<table>
<thead>
<tr>
<th>Instructor’s Intentions</th>
<th>Instructor’s Implementations</th>
<th>Student Reactions</th>
</tr>
</thead>
</table>
| Developed personal relationships with students | • called students by first names  
• dealt with students as individuals  
• provided flexible office hours, phone and e-mail communication | • students felt comfortable in sharing their ideas and thoughts  
• students enjoyed having an opportunity to get to know their instructor  
• students felt that the instructor was accessible |
| Taught creative processes: divergent and convergent processes | • introduced techniques such as thumbnail sketches, brainstorming, matrices, research, and synthesis | • students benefited from different aspects of these processes  
• students gained new conceptions of creativity |
| Encouraged multiple perspectives | • emphasized “No one right answer” | • students felt comfortable in taking risks  
• students were encouraged in their individual expression |
| Encouraged freedom of choice | • included an open option in every assignment | • students felt free to experiment and take risks  
• students were encouraged in their individual expression  
• students were free to use different processes |
| De-emphasized grades | • communicated his method of grading  
| | • did not give standardized tests or exams  
| | • grading was based on student effort, ability to devise creative solutions, enactment of these solutions, and reflexive papers  
| | • students felt free to produce many ideas  
| | • students trusted the instructor  
| | • students generally felt more comfortable  
| | • students felt encouraged to be creative |