

POD —IDEA Center Notes

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Michael Theall, Youngstown State University, Series Editor

IDEA Item #19: "Gave projects, tests, or assignments that required original or creative thinking"

Cynthia Desrochers

California State University, Northridge

Background

Original, creative, higher-level thinking is seen in many forms of personal expression in all disciplines, from writing, music, and art to a unique design in the social sciences or an original experiment in the natural sciences. However, this synthesis can come only after students have mastered the declarative and procedural knowledge (1) in a particular discipline, and even then, only under conditions that encourage the freedom necessary to think creatively. *Creative thinking involves an integration of past learning to produce and organize new ideas.* Thus, student motivation is enhanced as students experience the personal satisfaction that comes with creating something that is their own. When students are asked to think outside-the-box (2), divergent processes and projects emerge, with no two student efforts looking the same and no clear right or wrong answers being sought. Creativity occurs when students are asked to become deeply absorbed in complex tasks and problems in order to create new forms and styles of expression (3). These tasks are effective and they also provide tangible evidence of student accomplishment and learning. Item #19 highly correlates with IDEA learning objectives #26 (developing creative capacities), #28 (developing skill in expressing myself orally or in writing), #29 (learning how to find and use resources for answering questions or solving problems), #31 (learning to analyze and critically evaluate ideas, arguments, and points of view), and #32 (interest in learning more).

Helpful Hints

If students are to show original or creative thinking in your course, their projects, tests, and assignments must be designed to encourage this. Conditions for stimulating creativity include 1) a solid foundation in the discipline, 2) open-ended

and flexible projects, tests, and assignments, and 3) time to create.

Creativity generally begins with a solid understanding of the knowledge base upon which it flows (learning about aerodynamics precedes redesigning the tail assembly of a 747 jet) (4). The greater the student's knowledge about the discipline, the more capable (s)he is in creating with it. This requires that students learn facts, concepts, and generalizations before they venture into creative projects. Moreover, you may need to determine if these building blocks of creativity are in place at the beginning of your course. A simple, teacher-made diagnostic test may uncover students' knowledge gaps and signal the need for you to review essential elements leading to student mastery of basic principles.

A second necessary condition for student originality and expressiveness is the *freedom to experiment* (4). Designing open-ended projects, tests, and assignments, as well as establishing a classroom climate that accepts trial and error and consciously takes steps to build students' self-confidence accomplish this. Students should not feel pressured to adopt a specific viewpoint or be stifled by too much control over their creative work. Although we often show models or demonstrations of expected student products in order to further learning, when creativity is our goal, the display of previous outstanding projects may inhibit student creativity, either by blinding them to think only along the lines of the example or by intimidating them with a "perfect" model.

Time is another important condition if student creativity is your priority. Students must explore various approaches, interpret and analyze

materials, and experiment with various schemes of organization. Because this may take weeks, our challenge is to stimulate creativity over the course of the semester. Students might develop multiple drafts of a project or complete it in segments, followed by feedback. Because writing often shapes our thinking, encourage students to write out their plans where appropriate, as a draft, journal, log of activities, or 3 x 5 card update, often followed by peer-group discussions. It may be possible, under special circumstances, to assign creative work without the foundation of basic knowledge. For example, in an introductory course in photography, students might be given cameras and asked to document campus life. This task might provide a pre-measure of native composition and subject selection skills and as the course progresses, students could revisit the original assignment to make changes and improvements, thus documenting their progress and developing sophistication. In other fields, there may be fewer opportunities for such work, but there will always be chances to engage even beginning students in creative activities such as brainstorming possible solutions to problems or devising work plans.

Assessment Issues

Who is the judge of creativity? The answer depends upon the standards of quality that have been set for the project, test, or assignment – all three being forms of assessment in themselves. Moreover, when we design our graded assessments before the first day of class, we can align our student-learning activities throughout the course to appropriately "teach to" these assessments (2, 3).

Good assessments 1) measure intended creativity outcomes, 2) are clear about student expectations, and 3) allow students to personally connect with the discipline (6). Although it is what the student produces that matters, our directive verbs can signal creativity, for example: students will "compose, construct, create, design, perform, produce, or rearrange," to identify a few. For projects and assignments, you can *increase students' understanding of your expectations by constructing a rubric with the students*, identifying 4 to 6 essential characteristics of the final product, and including qualitative statements for an excellent, satisfactory, and below standard product. This student-learning activity not only clarifies student expectations but also gives them a voice in determining what is being assessed as well as the rationale for how quality will be judged. Authentic performance assessments, where students create

in real-world contexts, are preferable in order to increase student engagement and retention of learning (2, 3, 5, 6). Although performance assessments are common in art, music, or drama, they can be designed for all disciplines through creative written expression, oral presentations or poster sessions, portfolios and webfolios, exhibitions, or experiments.

Creative tests, considered here separately from creative projects or assignments, can be take-home exams. They give your students the time needed to create, and reduce the likelihood that you will administer the test on a creatively bad day for some student (even literary geniuses have dry spells). However, if an in-class exam is necessary, students should be given readings, materials, and key questions to analyze well in advance of the test, so they can do the necessary idea percolating required for original and creative expression.

References and Resources

- (1) Bloom, B., et al. (1956). *Taxonomy of educational objectives, Handbook I: Cognitive domain*. New York: David McKay. See pp. 162-183.
- (2) Fink, L. D. (2003). *Creating significant learning experiences*. San Francisco: Jossey-Bass. See pp. 40-41; 165-166.
- (3) Angelo, T. A., & Cross, K. P. (1993) *Classroom assessment techniques: A handbook for college teachers* (2nd ed.). San Francisco: Jossey-Bass. See pp. 181-212.
- (4) Zull, J. (2002). *The art of changing the brain: Enriching the practice of teaching by exploring the biology of learning*. Sterling, VA: Stylus Publications. See chapters 6, 7, & 10.
- (5) Wiggins, G. (1998). *Educative assessment*. San Francisco: Jossey-Bass. See chapters 2, 7, & 8.
- (6) Allen, M. (2004). *Assessing academic programs in higher education*. Bolton, MA: Anker Publishing. See chapters 2, 5, & 7.

IDEA Paper No. 16: [Improving Multiple-Choice Tests](#), Clegg and Cashin

IDEA Paper No. 17: [Improving Essay Tests](#), Cashin

IDEA Paper No. 18: [Matching Instructional Objectives, Subject Matter, Tests, and Score Interpretations](#), Hanna and Cashin

IDEA Paper No. 19: [Improving College Grading](#), Hanna and Cashin

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