

Multiple intelligences at the middle level: Models for learning in art and across the disciplines

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Adolescence is, on many counts, a time of crisis both inwardly and outwardly. Bodily changes affect coordination and self-concept, while hormonal shifts can unhinge the emotions. Intellectually, adolescents have not quite shed the magical/concrete thinking of childhood, yet strive, at least in argumentation, for the rationality of adults (Piaget & Inhelder, 1967). Such personal ambiguities are, of course, exacerbated by cultural ones. Unlike traditional societies where rites of passage usher 13-year-olds directly into adulthood, U.S. society suspends adolescents for years on the cusp between childish indulgence and adult responsibility (Kessler, 1999-2000). Small wonder so many adolescents try on the mantle of maturity by experimenting with adult indulgences like drugs, sexual exploration, crime, and other self-destructive acts (Michael, 1983).

All these conflicts surface visibly in the art room, whether as controversial imagery or confrontational behavior (Henley, 1997). Artistically, too, middle-schoolers sit uncomfortably "in the middle." No longer satisfied with elementary forms of expression, they are also all too aware of their incapacity to achieve the realism they associate with adult art (Simpson et al, 1998; Davis, 1997). This frustration leads many young people to quit art, while others, perhaps more capable, may stop because art's not "cool," or because of pressure by parents or teachers to concentrate on academics. All this can make the middleschool art room a challenging place to be.

Yet, the Chinese language reminds us that "crisis" can also mean "opportunity." Successful middle school art teachers know this for a fact and capitalize on the energy of adolescents to make art an opportunity for many to achieve a sense of mastery and self-respect (Wolf, 1997). The question remains, however: How can success be achieved by students of all types and levels of ability? This article attempts to address that issue by looking at middle level (6th-8th grade) art instruction through the lens of multiple intelligence (MI) theory (Gardner, 1983). MI provides not simply a justification for art in schools, but a framework for teaching art in a more comprehensive way in order to reach a greater range of students. This approach may also

help legitimately link arts education to learning in academic disciplines (Eisner, 1998).

Linking Theory to Practice

Since its formulation in 1983 by Harvard psychologist Howard Gardner, Multiple Intelligence theory has become a major force in educational reform. MI, as the name implies, opposes the common view of so called "general intelligence," a singular and fixed capacity that can be measured by a standardized IQ test (Spearman, 1927 and 1904). These tests, it is argued, emphasize logical/mathematical and linguistic skill and so short change those with different abilities. Not surprisingly, many of the differently-able come from minority populations with cultural backgrounds and values unlike the middle-class Caucasians for and by whom the tests were first designed (Neisser [Ed.], 1998; Jensen, 1980; Lemann, 1993). Gardner strives to be more democratic. He opposes the intellectual bell curve (Herrnstein & Murray, 1994) in which few are "haves" and many, "have nots," and affirms that everyone has his or her own unique MI profile. Normally all the intelligences are present, but with particular strengths and inevitable weaknesses. As MI researcher Bruce Torff put it, this shifts the question from "How smart are you?" to "How are you smart?"

According to critics, besides being elitist, IQ tests and the like are typically not authentic (Wiggins, 1989). They test how well people can take a particular kind of test, but not how well they can apply their knowledge. Focusing on authentic application while accommodating diverse capacities, Gardner redefines intelligence as the "ability to solve problems or to fashion a product... that is valued in at least one culture" (Gardner in Moody, 1989). Moreover, he explains, no truly intelligent activity uses only one intelligence. Artmaking, for example, naturally involves spatial intelligence, but might also include a logical/mathematical element as in perspective drawing, or a bodily kinesthetic component as in wheel thrown ceramics.

Gardner's theory builds upon previous psychological research by L.L. Thurston (1938) and J.P. Guilford (1971) and draws on other disciplines including anthropology, philosophy, and biology, to identify seven, and now eight, areas of intelligence. These include: linguistic, logical/mathematical, musical, spatial,

bodily/kinesthetic, inter-personal, intra-personal, and most recently, naturalist Gardner uses eight criteria to identify a major intelligence (Gardner, 1983):

- * Potential isolation by brain damage
- * The existence of idiots savants, prodigies, and other exceptional individuals
- * An identifiable core operation or set of operations
- * A distinctive developmental history, along with a definable set of expert "end-state" performances
- * An evolutionary history and evolutionary plausibility
- * Support from experimental psychological tasks
- * Support from psychometric findings
- * Susceptibility to encoding in a symbol system

These criteria can, of course, be applied to the arts, leading some to argue for the existence of "artistic intelligences" (Eisner et. al in Art Education, 1983 and in Moody, 1989). Gardner stops short of such claims, saying,

Strictly speaking, no artistic intelligence exists. Rather, intelligences function artistically -or non artistically- to the extent that they exploit certain properties of a symbol system... (S)patial intelligences can be exploited aesthetically by a sculptor or painter and nonaesthetically by a geometer or a surgeon. (Gardner, 1999, p. 108-109) Gardner similarly disassociates his intelligences from a particular sensory modality, so there is no visual intelligence, per se. Still, by casting musical, spatial, and bodily kinesthetic abilities as domains of intelligence, Gardner intentionally puts them on a par with mathematics and language. Doing so, he provides a powerful argument for the role of the arts in education.

The arts, thus defined, address intelligences normally untouched by academics. This fact, however, does not necessitate a segregation of art from academics, as some have suggested (Parsons, 1998). Indeed, recent research suggests that MI-based, arts-infused curricula can help foster

academic skills for students whose intelligence lies outside traditional parameters, while providing all students with a more comprehensive and well-rounded intellectual preparation (Kornhaber, 2000).

It is hard to find a significant arts advocacy paper published in the past 15 years that fails to mention Gardner's potent claims. Gardner's theories were also explored in an issue of *Art Education* (see Volume 36, 2) devoted to "Artistic Intelligences" (1983), as well as at a South Carolina conference on the same topic (Moody, 1989). Nonetheless, the impact of MI on art education practice seems relatively slight compared to its influence on K-12 instruction (see, for example, Gardner et. al, 1997). Larry Kantner found only one presentation at the 1989 NAEA conference directly related to Gardner's work (Kantner, in Moody, 1989) and I found only one in the 2000 conference catalogue. Here I invite renewed consideration of MI theory in the teaching of visual art. As I argue, MI can enrich studio art instruction while reaching a wider range of students. It may further help students connect arts activities to learning across subject areas. To illustrate these points, I will first describe two programs exemplifying an MI approach to art, then propose a format for infusing MI into art instruction at all grade levels.

Arts PROPEL

Among the many research projects growing out of MI theory, a few were designed with arts curriculum and assessment in mind. One of these was Arts PROPEL, a project supported by the Rockefeller Foundation, 1986-1991 (Gitomer, 1989). The project involved collaboration among Harvard Project Zero, of which Howard Gardner was co-director, Educational Testing Service (EIS), and the Pittsburgh Public Schools. Its focus included middle and high school level imaginative writing, music, and visual arts (Winner, 1992).

Assuming that standardized tests make "no sense" when assessing the arts, Arts PROPEL set out to "develop non-- traditional models of assessment appropriate for students engaged in artistic processes." Such assessments would, of course, enhance instruction in the arts, but they would also help demonstrate artistic abilities in ways college admission counselors could appreciate

The name PROPEL is an acronym including Production, Perception, Reflection, and Learning. Production, the creation of original artwork, was the central concern, with process considered as important as product. Perception, a necessary complement to making art, involved observation of subject matter, investigation of materials, and the study of cultural resources including especially relevant artworks. Thus, art history and art criticism were not ends in themselves, but means to foster more informed and inventive artmaking (Zessoules, Wolf, & Gardner, 1988). Reflection called for students to document their creative process in words and images. Reflections were often recorded in journals, but could also be written on reflection sheets, or even on the backs and borders of the final work. To integrate production, perception, and reflection while encouraging and demonstrating significant student learning, PROPEL teachers and researchers developed two curriculum and assessment vehicles: Domain Projects and Process-Portfolios.

Domain Projects

A domain project is "a curriculum module, a rich set of exercises built around a central concept" in an artistic domain. In visual arts, central concepts include things like the treatment of subject matter (trompe-l'oeil still-life, impressionist landscape) or technical/creative problems (kinetic sculpture, logo design). All domain projects necessarily incorporate production, perception, and reflection, but the order and emphasis of these components can vary widely. A project with an expressive focus may begin in Lowenfeldian fashion with reflective questions to prompt memories or feelings (Saunders, 1982).

A hand building project may begin with perception—the study of inspiring forms from nature. Formative assessment is built into each project as an "episode of learning" (Wolf, 1992). Summative assessment may involve a formal rubric completed by both students and their teacher.

Pam Costanza, an Arts PROPEL teacher at Rogers Middle School for Creative and Performing Arts in Pittsburgh, developed a domain project in portraiture that demonstrates a multiple intelligence approach to art instruction. The project's objectives were to expand students' experience with drawing media and to encourage more expressive drawing styles. The unit began with loosening-up exercises: a portrait sketch using blind contours,

another using only "squiggly" lines, and a third using only lines drawn with a ruler. The ruled-line approach was then enhanced by adding expressive (as opposed to naturalistic) color with oil pastels. Following this, students looked at expressionistic portraits by Picasso to better appreciate their own efforts as well as the work of a noted artist. Ongoing studies of other artists' portraits complemented further drawings using pencil and color. The unit concluded with a final portrait or self-portrait whose style and media was determined by the student. Students also studied artists who worked in a style similar to theirs, recorded their process in journals, and reflected orally about the artist's work during critiques.

Sometimes, earlier reflections prompted later perception and production. For example, Dennis Biggs, planning his final project, recalled a dream he wrote about a few months back:

It was a dark night and I had just come home from a program. Then the terror began. I jumped in my bunk bed onto a ton of spikes. Then I got up and jumped a whole flight of steps into a pool. I then began to sink to the bottom where I found myself in a jungle with the Ghost Busters. As we talked, I asked how I could get home, but before I knew it, I was on the floor in the bathroom of my own house. (Winner & Simmons, 1992, p. 39)

Picasso's work inspired Dennis to invent his own multi-faceted self-portrait expressing the feelings evoked by this dream. Other students, working more realistically, looked to Botticelli, Rembrandt, Wyeth, or Vermeer. In this way, the project, like any good art assignment, allowed for a variety of student successes. But PROPEL projects go further. By emphasizing reflective writing, even students whose studio work doesn't excel can gain acclaim (Winner & Rosenblatt, 1989). From an MI perspective, then, one could say this lesson uses spatial and bodily-kinesthetic intelligence in the studio project and linguistic and intrapersonal intelligence in reflective writing and presentations.

Process Portfolios

Domain projects done over a term are included in a process-portfolio and assessed with a rubric dealing with production, perception, reflection, and

approach to work evidenced across the grading period. Unlike typical portfolios that include only the best finished work, process-- portfolios intentionally include concept sketches and early drafts, along with all final products. Reflection sheets, interview forms, and journals help students, teachers, parents, and administrators trace the evolution of particular ideas as well as general progress over time.

Although not part of Arts PROPEL, Ron Berger has for years been keeping similar portfolios for his sixth graders in Shutesbury, Massachusetts. Berger is not an artist or an art teacher, but his approach to teaching exemplifies the use of art for solving problems and making products across an entire curriculum (Berger, 1993). This is evidenced by the some of the projects found in one year's portfolios:

- * a science/literature/creative writing unit involving a section-elevation drawing of an invented cave to illustrate a story written about a cave adventure. These followed a spelunking trip to a nearby cave, reading Tom Sawyer, and a unit on geology.

- * a math and social studies unit on an invented family, with portrait drawings, handmade artifacts, and written biographies of family members, as well as a floor plan of the family home.

- * a final unit in which pairs of students research, design, and construct three-dimensional models of a public institution, e.g., a pizza parlor, an airport, a small liberal arts college.

For this project, students must write letters to relevant businesses, visit the sites and take notes, sometimes calling in visiting experts, like a pilot to help them lay out a runway.

Evidently, interpersonal, linguistic, mathematical, and spatial skills are required for all these projects. They also involve an emphasis on process and have built-in structures for self-assessment: multiple drafts, regular peer and teacher conferences, group critiques, and written reflection sheets. Last, but not least they include a public forum for presenting final work, encouraging students to strive to do the best job possible (Berger, 1996). These methods,

combined with the interdisciplinary character of each thematic unit, help ensure that all students achieve high standards, not only in the work completed but in behavior, responsibility, and thoughtfulness.

Framing the Multiple Intelligence Experience

Whether we are aware of it or not, significant art instruction like the teaching described above necessarily engages multiple intelligences (Kantner, Colbert, in Moody, 1989). Without means to capture and celebrate it, however, such learning is often lost after the fact both to the viewer of the final product and to the student. On the other hand, explicit explanation of MI theory and how it applies can help students appreciate the breadth of their experiences (Armstrong, 1994), while helping others see the learning taking place.

To make explicit the multiple intelligences in art activities, I have devised an MI unit plan format and have filled it out with a 7th-grade perspective lesson I recently taught with art teacher Kelly Hassler at Saluda Trail Middle School in Rock Hill, SC. The unit began with an introduction to MI theory, and specific intelligences were mentioned during the lesson when appropriate. Activity began with the bodily kinesthetic task of drawing genuinely straight lines freehand. Then spatial intelligence was brought to bear on table top and ceiling corner drawings (Edwards, 1979). The unit follows with a constructed drawing using linear perspective to challenge the logical/ mathematical intelligence. As a further step, the naturalist intelligence could be applied in landscape drawing using atmospheric perspective. Alternatively, students may engage intra-personal and linguistic intelligences making an expressive composition using exaggerated perspective to illustrate a dramatic story. By involving multiple intelligences and drawing students' attention to the kinds of intelligences being employed, teachers can begin to help students appreciate the value of learning in the arts while also potentially encouraging transfer of skills from one discipline to another (Perkins & Salomon, 1988).

As suggested in this article, an MI-based art curriculum can broaden the scope of successful learning by tapping into students' differing strengths, backgrounds, and interest. It thus promotes educational equity while encouraging individualization (Reiff, 1997). However, the crucial point in multiple-intelligence based instruction, as in any theory-driven practice, is

effectively to apply the theory in all its implications. This, as Gardner (1999) has complained, is easier said than done. Playing background music in the art room is not likely to engage the musical intelligence either in problem solving or product making. But, these capacities can be activated by asking students to translate music they hear into a computer animated dance (a la "Fantasia") or a non-representational painting (a la Kandinsky). Spatial intelligence is hardly challenged by copying a photograph from a magazine using a grid; but rearranging the drawn grid segments into a collage demonstrating repetition, unity, and asymmetrical balance, probably would.

The same caveat applies to claims that art teaches creativity, cognition, and craftsmanship. The proof is in the pudding—that is, in final products and in process pieces leading up to them. Domain projects, process-- portfolios, and reflective journals are intended both to encourage and to demonstrate the genuine engagement of intelligences. As such, they can help convince parents and principals that learning has occurred, and they can also convince the students themselves. Reviewing work done in the past, comparing it to work done in the present, and projecting from this possible routes into the future, can provide momentum to even the most recalcitrant middle schooler. In the process, it can yield for every child the recognition of growing mastery that, in turn, can help promote justifiable self-esteem.

While such positive feelings won't ensure a life-long love of art, or even ongoing good behavior in the classroom, they are nonetheless important foundations for both, and so essential elements at all levels of art education.

REFERENCES

Armstrong, T. (1994). *Multiple intelligences in the classroom*, Baltimore: Association for Supervision and Curriculum Development (ASCD).

Berger, PR (1993) *Expeditionary learning in the classroom*, One teacher's view. An interview with Ron Berger by Emily Cousins, *Outward Bound*, Volume I, 1993,

Berger, R (1996) *A culture of quality*. Annenberg Institute for School Reform, Occasional Paper Series, #1. Providence, RI: Brown University.

Davis, J. (1997). The "u" and the wheel of "c:" Development and devaluation of graphic symbolization and the cognitive approach at Harvard Project Zero, in *Child development in art*, Reston, VA: National Art Education Association.

Edwards, B. (1979). *Drawing on the right side of the brain*, Los Angeles: Tarcher.

Eisner, E., & Gardner, H. et.al, (1983). *Art Education*, Vol. 36, No.2. Eisner, E. (1998). Does experience in the arts boost academic achievement? *Art Education*, 51(1) 7-15.

Gardner, H. (1983). *Frames of mind*. New York: Basic Books.

Gardner et al, (1997) *Teaching for multiple intelligences*, *Educational Leadership*, 55(1).

Gardner, H. (1999), *Intelligence refrained*. New York: Basic Books. Gitomer, D. (1989), *Developing a portfolio culture that enables learners*. Paper presented at the 1989 National Summit Conference on the Arts and Education, The John F. Kennedy Center for the Performing Arts.

Gitomer, D., Grosh, S., & Price, K (1992), *In Portfolio culture in arts education*. *Art Education*, 45(1), 7-15.

Guilford, J. P. and Hoepfner, R (1971). *The analysis of intelligence*. New York: McGraw-Hill.

Henley, D. (1997). *The art of disturbance: Provocation and censorship in art education*. *Art Education*, 50(3), 39-45.

Herrnstein, R and Murray, C. (1994). *The bell curve*. New York: Free Press.

Kantner, L. (1989). *Visual arts education and multiple intelligences: Before implementation*; Colbert, C. *Visual Arts: Multiple Ways of Knowing*, in W.Moody (1989). *Artistic intelligences:*

Implications for education. New York: Teachers College Press. Kessler, R. (1999-2000). *Initiation-Saying good-bye to childhood*. *Educational Leadership*, 57 (4) 30-33.

Kornhaber, M. (2000). Project SUMIT, report on Harvard Project Zero web site (pzweb.harvard.edu).

Jensen, A (1980). Bias in mental testing. New York: Free Press. Lemann, N. (1993, August). The structure of success in America. *The Atlantic Monthly*, 41-60.

Michael, J. (1983). Art and adolescence. Teaching art at the secondary level. New York: Teachers College Press.

Moody, W. (1989). Artistic intelligences: Implications for education. New York: Teachers College Press.

Neisser U. (Ed.), (1998). The rising curve. Washington, DC.: American Psychological Association.

Parsons, M. J. (1998). Integrated curriculum and our paradigm of cognition in the arts. *Studies in Art Education*, 39(2), 103-116. Piaget J. and Inhelder, B. (1967). The psychology of the child. New York: Basic Books.

Perkins, D. and Salomon, G. (1988) Teaching for transfer. *Educational Leadership*, 46(1).

Reiff, J. C. (1997), Spring). Multiple intelligences, culture and equitable learning. *Childhood Education*, 301-304.

Saunders, R (1982). The Lowenfeld motivation. *Art Education*, 34. (6). 47-49.

Simpson, J. et. al, (1998). Creating meaning through art. Upper Saddle River, NJ: Prentice Hall.

Spearman, C. (1927). The abilities of man: their nature and measurement New York: Macmillan; and (1903) General Intelligence Objectively Determined and Measured, *The American Journal of Psychology* 15,201-293.

Thurston, L. L. (1938). Primary mental abilities, *Psychometric Monographs* 1938, 1.

Wiggins G. (1989). A true test: Toward more authentic and equitable assessment. *Phi Delta Kappan*, 70,703-713. Winner, E., & Rosenblatt, E. (1989). Tracking the effects of the

portfolio process: What changes and when? *Portfolio: The Newsletter of Arts PROPEL*, 1 (5). Cambridge: Harvard Project Zero, 21-26.

Winner, E. (1992). *Arts PROPEL An introductory handbook*. Princeton, NJ: Educational Testing Service and the President and Fellows of Harvard College.

Winner, E., & Simmons, S. (1992). *Arts PROPEL: A handbook for visual arts*. Princeton, NJ: Educational Testing Service and the President and Fellows of Harvard College.

Wolf, D.P. (1992). Assessment as an episode of learning. In R. E. Bennett & W. W. Ward (Eds.), *Construction versus choice in cognitive measurement*, Hillsdale, NJ: Lawrence Erlbaum Associates.

Wolf, P. (1997). A really good art teacher would be like you, Mrs. C.: A qualitative study of a teacher and her artistically gifted middle school students. *Studies in Art Education*, 38(4), 232-245.

Zessoules R. Wolf, D.P., & Gardner, H (1988). A better balance: Arts PROPEL as an alternative to Discipline-Based Arts Education. In J. Burton, A Lederman, & P. London (Eds.), *Beyond DBAE: The case for multiple visions of art education*. University Council on Art Education.

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