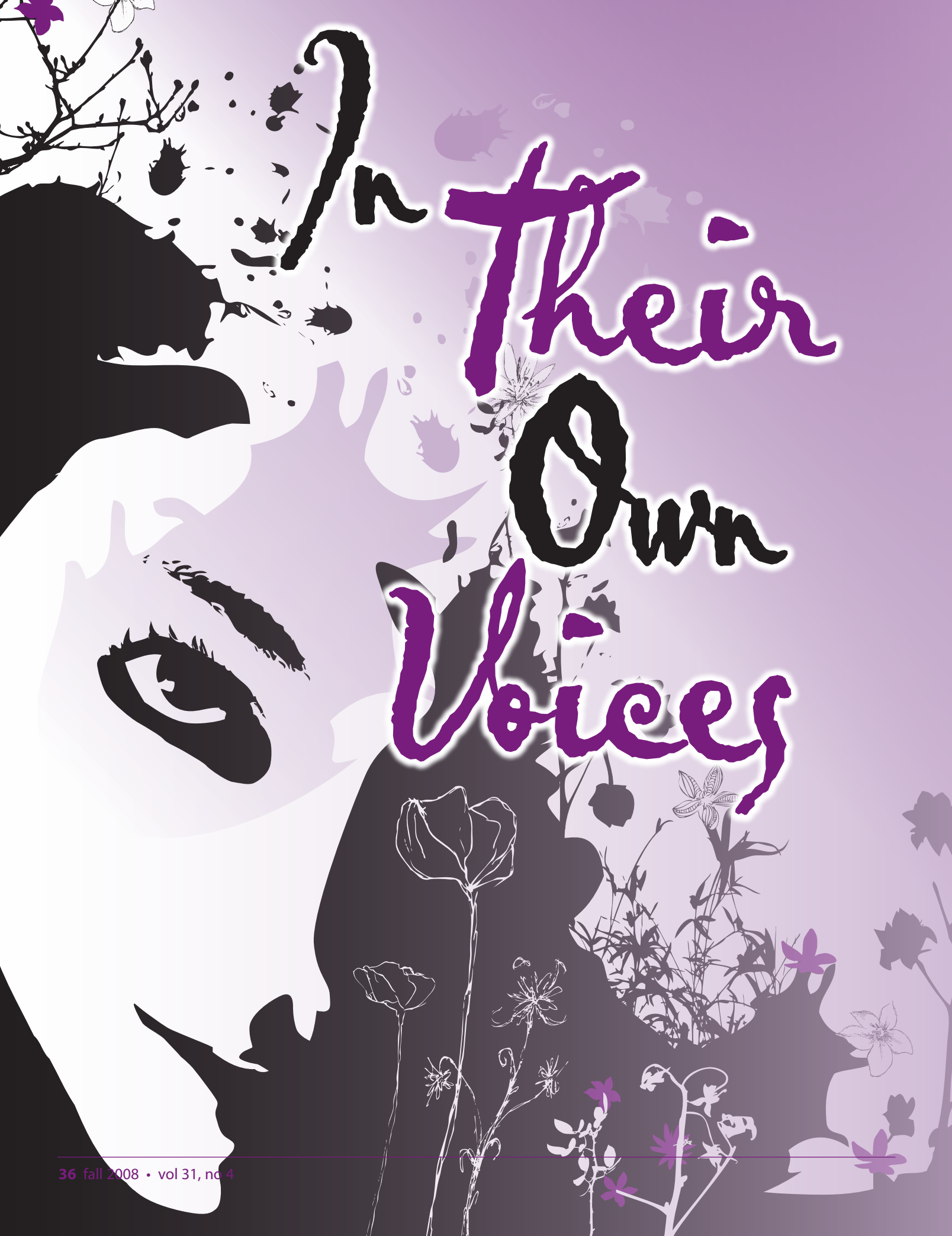
In Their Own Voices

Helping Artistically Gifted and Talented Students Succeed Academically

Karen Lee Carroll

Have you ever wondered how to help the students who are artistically highly able? Who better to ask than a graduate class of art education students from one of the country's most selective and competitive art colleges? Soon to be teachers themselves, they are at a state of heightened awareness of their own learning styles, preferences, strengths, and challenges. In a pilot study using an open-ended questionnaire and a follow-up member check, this purposeful sampling of students offered some very practical recommendations. Their candid responses suggest a lot about how they learn best, what they need from teachers, and how they also can help themselves. Clearly they have insights they want to share.

Art education is an interdisciplinary field in the sense that it requires a mix of studio practice with theory and academic-style learning. We teach philosophy and theory drawn from psychology, social sciences, history, and the humanities. Helping students be successful readers, writers, speakers, and test-takers are goals shared with those who teach academic classes. It has been my observation that students who have made it to high levels of performance in art include a variety of different artistic profiles as well as different academic strengths and challenges. The central question for this study is to find out, from a student point of view, strategies for teaching and learning that may foster academic achievement among those whose intellectual strengths and learning style preferences are primarily visual, spatial, and kinesthetic. Secondarily, this study is an initial effort to look for emerging patterns between different artistic and academic profiles. A third question concerns beliefs and expectations regarding the doubly exceptional; that is, gifted in one area and challenged in another.

Review of the Literature

The Challenge of Teaching to Multiple Intelligences

Multiple intelligence theory, as articulated by Gardner (1983), creates an argument for recognizing intelligence as it manifests itself in different domains. Although it is a worthy goal to teach to each student's strengths, it is easier said than done to consistently orchestrate instruction that involves a number of learning modalities and processes for large and diverse populations including the academically and artistically gifted. It takes a conscious effort to design multiple ways to use different modalities for entering into and investigating new material. It takes creativity to structure purposefully meaningful and hands-on experiences that tap into personal motivations to learn and activate the learning process. Assessment also has its challenges in constructing criteria and processes for evaluating authentic learning and open-ended problem solving. This is a tall order indeed and a very sophisticated challenge for any teacher to take on. At

another level, it also takes a depth of understanding of how the arts are a multi-intellectual form of engagement that can motivate, actualize, and integrate teaching and learning (Simmons, 2001).

Seeking Causes for Academic Underachievement Among the Artistically, Spatially, and Kinesthetically Gifted

Is there any association between expectations for student achievement and different intelligences? A study by Gohm, Humphreys, and Yao (1998) investigated the underachievement among spatially gifted students. By comparing two groups of high school seniors who performed well above the 12th-grade mean on all cognitive tests, were identified as either spatially gifted students or mathematically gifted students, and using longitudinal information and multiple measures, their investigation concluded that poor performance, or underachievement, could not be explained by lack of ability.

Rather, it appears that a host of other factors were significant, including: affinities for hands-on occupations, enrollment in fewer college preparation courses, less motivation in school, subsequently lower expectations regarding college education, less guidance from school personnel, lower parental expectations for postsecondary education, fewer hours studying, and different "tools" in the home. In relationship to this study, one finding seems particularly relevant:

> Lack of interest in school work made it difficult to keep their attention on what they were doing, failure to pay attention in class had lowered their grades, they did only enough to get by unless they really liked a course, and they were less likely to do more than the course required (Gohm et al., 1998, p. 522).

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Meanwhile, compared to the mathematic and more academic achievers, the spatially gifted reported hobbies (perhaps better called interests) in art-making, mechanics, building, making, repairing, and working hands-on with materials. Their extracurricular reading included more comic books, love stories, science fiction, Western, adventure, and mystery stories; girls, in particular, showed interest in creative writing (Gohm et al., 1998, p. 523). They also had a host of reasons for not attending college: College was not as necessary for the kind of work they liked to do; they did not like to study; high school grades were too low; they desired to get a job and start earning a living; and they did not think they had the ability. The study ends on this note: "If any identifiable group of students is underachieving, the educational community will want to correct the problem" and "not to do so is a significant loss to themselves and society" (p. 530).

The Doubly Exceptional: Gifted in One Domain, Challenged in Other(s)

Students with both gifts and learning disabilities are the topic of an anthology of readings edited by Newman and Sternberg (2004). Entertaining a long-standing question among educators of the gifted and talented, they ask: Can students be both gifted and learning disabled? They use the term *twice-exceptional* to describe this paradoxical notion. An example used in the introduction (Baum, 2004) has some correspondence with the profiles found among the sampling of students whose insights are reported in this article. Baum described a fifth grader with extraordinary spatial abilities and a gift for expressing abstract understanding in words. Yet, this student "has never been able to memorize multiplication tables and still counts on his fingers" (p. 3). Baum noted that this child, although now succeeding in school, has apparently lost his love of learning due to "years of erroneous diagnoses, harmful medications, and inappropriate learning environments and interventions" (p. 4).

Although the anthology presented many articles exploring the challenges, controversies, and promising practices for gifted/learning-disabled students, it appears that research has yet to unravel the complexities involved in co-occurrences of gifts and disabilities. The chapter on dyslexia and visual-spatial talents revealed more about how such research is being conducted than conclusive insights. Karolyi and Winner (2004) reviewed research studies and conducted their own investigations regarding the connection between dyslexia and visual-spatial talents. These researchers stated that although "individuals

with visual-spatial gifts have a disproportionate incidence of reading deficits, including dyslexia, individuals with dyslexia do not consistently show superior visual-spatial abilities" (p. 95). This, they noted, is in contrast to popular wisdom that suggests a disability is also a gift.

Karolyi and Winner (2004) reported studies that point to empirical evidence of greater symmetry in dyslexic brains that could result in altered cognitive capacities and some evidence that dyslexic brains may have enhanced cognitive functions. In reviewing studies related to reading problems in individuals with visual-spatial talents, it appears that artists have been found more likely than those majoring in the humanities, social sciences, math, and science, to "report a past history of dyslexia, difficulty learning to read, difficulty reading quickly, and problems with reversing letters and numbers" (p. 99). As well, under testing conditions, they make more spelling errors and may fare poorly on measures of verbal fluency. Inventors also are reported to have a prevalence of language problems as well as children with high visual-spatial abilities.

From the evidence reviewed, Karolyi and Winner (2004) concluded that dyslexia could coexist with visual-spatial gifts. However, the research does not yet tell whether individuals with dyslexia have superior visual-spatial abilities or whether such individuals are compensating for less strong verbal abilities. To further explore that question, they turned to studies that compared spatial profiles of individuals with and without dyslexia. It is interesting to note that the methods used in the comparative studies are for the most part two-dimensional in nature, using visual diagrams and drawings to assess spatial orientation, mental rotation, visualization, visual memory, speed of closure, figural flexibility, artistic ability, and global visual-spatial abilities. As Karolyi and Winner observed, these tests "fail to translate . . . to on-the-job performance" (p. 113). Only in the last area of global spatial processes or holistic perception is there some evidence to suggest dyslexia may be linked to talent. To know more, additional research is needed. One might hope that other measures of a more authentic and three-dimensional nature might be used as well as real-life case studies.

Method

Participants

The setting for the study is one of the nation's top five colleges specializing in the visual arts. The standards for acceptance are extremely high, based on clear evidence of artistic accomplishment demonstrated in portfolios as well as other factors suggesting exceptional ability and potential for artistic growth and development. Once accepted into the college, students who wish to enter the art education program go through another screening, checking for continued artistic and academic achievement, GPA's above 3.0 on a 4.0 scale, and high motivation for teaching. At the end of the bachelor of fine arts program, students are once again reviewed for entry into the graduate level. Here they must show evidence of accomplishment in studio work demonstrated in a senior thesis as well as a breadth of skills in media, a GPA of 3.0 (most have a 3.5 or better), and appropriate growth in their teaching skills. In short, the 29 subjects in this study represent one year's entire graduate class of candidates for a master of arts in teaching degree, all of whom have gone through at least three levels of screening for their expertise in making art, academic excellence, and progress in teaching internships within the context of a very selective art college. If not artistically gifted, all would more than meet the standard for the artistically highly able and talented. As well, the population included one spatially gifted student diagnosed with severe dyslexia; one student so kinesthetically gifted that he is a professional trapeze artist with a fear of writing; several more who needed to retake (some multiple times) the Praxis I math, reading, and writing tests; and several who made regular use of the college's writing center.

Procedure

A questionnaire designed for the study was administered in a course on The Psychology of Teaching and Learning; students were later provided a draft of this article and engaged in a discussion as a form of a member check. Students were asked to provide information on their gender, artistic profile, academic profile including strengths and challenges, and sense of self as a learner. Based on years of work with the visually gifted and talented, five different artistic profiles were used for this study:

1. students strong in both two- and three-dimensional art-making (n = 6);
2. students strongest in two-dimensional art-making (n = 11);
3. students strongest in three-dimensional art-making (n = 7);
4. students strongest with materials and process-based art-making (n = 5); and
5. students strongest in technology-based art-making (n = 0).

Students were asked to identify their artistic profile and then respond to the following open-ended ques-

tions: What do you know now about how you learn best? What advice would you like to give a teacher who might come across another student like you? How can teachers help you be and feel successful as a learner? What should teachers try to avoid and what did not work well for you?

The responses to the open-ended questions were then coded for emergent themes, for the group as a whole and for each of the self-reported artistic profiles.

Results

Different Profiles Emerging Among the Artistically Gifted and Talented

Drawing and two-dimensional work are a primary staple of basic training in the visual arts. Yet, some discover that drawing presents real challenges and that it does not come as easily to them as it appears to come for others. A high majority of our students are very able drawers, capable of rendering the three-dimensional world on a two-dimensional surface accurately, expressively, even eloquently. Clearly this is not so for others. So, who would the students be who find themselves in an art college struggling to draw? These are students who are likely to end up majoring in sculpture as they like to build, construct, and make objects with materials. They shine in the three-dimensional, high touch, media courses. Conversely, many of those highly able in two-dimensional media struggle in courses that require thinking in three-dimensional terms.

If art students inaccurately believe that to be an artist you must draw well, it stands to reason that others also might be unaware of how many different variations there are with regard to artistic gifts and talents. There are some students who are strong in both two- and three-dimensional thinking, easily moving between or combining drawing, painting, and sculptural forms. Others lead with their two-dimensional strengths and tend to select majors in drawing, painting, illustration, and graphic design. Those who lead with their three-dimensional strengths eventually discover, if they do not know early on, that they will be good in ceramics, wood, and metal. Some have a high affinity to materials and are drawn to sculpture or high-touch majors such as fibers. Others are designers, and may lean toward graphic design or more three-dimensional forms such as environmental design and architecture.

Still others have an inherent ability with technology and make their way into digital media, photography, and video. Those who have kinesthetic abilities may pursue majors in performance art or involve dance, drama, or theater in their artwork. There are, as well, those who think narratively or through concepts and metaphors. Some are drawn to disparate or synectic thinking in which unlike ideas and forms are merged together to create something new. Recently I have seen increasing numbers of students with an affinity for collage with its possibilities for thinking in layers, coincidental relationships, and ambiguous meaning; students drawn to collage are often very process-based and sometimes very spontaneous in their thinking and making.

All of these gifts and talents may be accompanied by interests in the other arts, often music, drama, dance, and/or writing. In this group there also are hikers, climbers, bikers, even a trapeze artist; many love to travel and speak foreign languages; there are leaders, organizers, and activists.

In Their Own Words: How Do the Artistically Able Learn Best?

There are some commonalities in how all of these various types of learners prefer to be taught, and indeed, what they need to be successful in mastering academic subject matter. Many describe themselves as visual learners; they need to see and to be shown. Others are tactile learners as well, and need touch to understand. Kinesthetic learners need to physically get up and move around. Some are good listeners but not all. Most want to figure things out for themselves—through doing, making, practicing, and through conversation. See Table 1 for the top seven most commonly mentioned teaching strategies found useful by this group.

Although the frequencies in Table 1 offer some insight as to what helps artistically gifted and talented students succeed academically, it should be noted that these are the results from open-ended questions, not from a checklist that might remind students of all the options. The rich data emerging from this study is qualitative data—what students have to say in their own voices. I have organized their open-ended responses into specific categories: What teachers can do; what the artistically gifted and talented can do for themselves; and insights they ask to share with teachers.

In their commentary these art-educators-to-be identified certain strategies for the delivery and development of content that helps them be successful. It was interesting to learn that even those who seemed to be academically able indicated that learning rarely came easily, that it was the result of good teaching and lots of hard work on their own. Let's first look at what teachers can do and then how these students know to help themselves.

Table 1
Teaching Strategies That Work for the Artistically Gifted and Talented

Teaching strategies	Strong 2-D and 3-D media (*n* = 6)	Strongest with 2-D media (*n* = 11)	Strongest with 3-D media (*n* = 7)	Strongest with process and materials (*n* = 5)	Total (*n* = 29)
Show me!	3	6	5	3	17 (58%)
Let me do it!	1	4	3	2	10 (34%)
Give me time to process	1	5	3	1	10 (34%)
Encourage me	1	4		3	8 (28%)
Peer dialogue and conversation	1	4	1		6 (20%)
One-on-one instruction	1	1	2	2	6 (20%)
Multiple teaching strategies	2	3	1		6 (20%)

What Teachers Can Do

"Throw out the texts, use handouts and visuals more." High on the list was the recommendation for using multiple modalities in teaching. The more the better. "Make it visual." "Write it on the board." "Show me." "Tell me." "Let me read about it, write about it." "Let me get up out of my seat." In general there was a plea to making learning exciting, to approach subjects from multiple perspectives, and present information and directions in multiple formats.

"I need structure." A clear pattern emerged here that indicates that concise oral instruction; attention to basic skills and concepts; repetition of key concepts, ideas, and facts; review; and one-on-one instruction are essential to their success. Some specifically asked for step-by-step instruction or small steps leading to a larger goal. Knowing the larger context as in where ideas come from was mentioned, as were clear expectations and goals.

"Don't assume anything." One student offered this observation:

> I was put in Advanced Liberal Arts my whole life for my use of vocabulary and speaking and my ideas as a whole. In these classes sentence structure is covered and reviewed in three days. I never got the chance to develop basic sentence structure and rules as it would be glossed over and assumed people in advanced language arts should know that. I'm just now able to make up for lost time.

As a follow-up, this student suggested that teachers look at students' ideas and performance, focusing on what they do well but also making them aware of what needs to be improved.

"Time is my best friend." Many indicated that they simply take longer to process ideas. One student indicated that only later did she discover that her successes were due to spending almost double-time on her work as compared to her peers. Some mentioned that they did not like to be pushed too hard. They benefit from wait-time. Several were clear that they did not want to be randomly called on if they had not raised their hand to answer because it creates anxiety and then that is all they take away from class. As one offered: "Sometimes the pace of conversation was fast, and made me feel slow. I was never slow, (I) just processed information internally versus externally."

"I need to touch it, handle it, move it around, change it." Hands-on! More than half of the students practically shouted this from their surveys. And, they had lots of suggestions for teachers: employ fun activities and games; develop interdisciplinary and creative projects; get groups or the whole class involved in project-based learning; provide opportunities to try things out, to figure things out on their own through experimentation; and involve students in dialogue, conversation, and reflective writing. Interestingly, several noted that group projects did not work well for them.

"Real-life applications put information into long-term memory." This observation was further explained: "(This) is because it feels useful and not just something to forget after a test." These learners want to make real-life connections with concepts and information. Some mentioned that memorizing was difficult and that real-life applications were much easier to comprehend. They want to know how to apply new learning to

practical situations. They like putting ideas to work in practice or through fieldwork.

"I need to know you are there for me." For a good portion of these students, a caring, nurturing teacher was essential. They wanted a teacher who recognized their strengths—and used their strengths to help them learn in areas that presented more challenges. They wanted a teacher who was approachable, there to ask for help when needed. Getting praise, when deserved, got mentioned, as did getting a lot of feedback. Several indicated respect for a teacher who would ask students how the instruction was working for them. Many of them spoke of a strong bond with teachers who believed in them.

What the Artistically Gifted and Talented Can Do for Themselves

Only one student said that reading helped; more often than not they admitted to being slow readers, some struggling to concentrate with the effort great and the results minimal. At least one noted having taken a course to improve reading skills. Many reported that they were serious note-takers and used these notes to review; one said rewriting the notes and seeing them for a second time helped. Several indicated that reflective writing, where they could synthesize their learning, was helpful. Some said tutors where helpful, even essential, as well as more time and effort than their peers. Parents often were partners in learning, helping review for tests or assisting in areas of challenge.

Insights They Ask to Share With Teachers

"A disability is not a disability. It is an ability you are not seeing." In some cases, artistic abilities are accompanied with very real struggles in certain areas. Some are associated with dyslexia, others with ADD or ADHD, even depression. Teachers sometimes have a hard time thinking of students with such learning challenges as being intelligent. Yet, the artistically able often are highly intelligent, as demonstrated in their work, how they think about what they are doing, and the array of their multiple abilities. Some researchers have observed that certain three-dimensional strengths often are accompanied by struggles with writing and spelling (Karolyi & Winner, 2004). These very same students also can be terrific creative writers when spelling and grammar are not the fixation. Another possibility suggested by this pilot survey is that three-dimensionally able students often are very successful in areas such as science because instruction is so hands-on whereas two-dimensional thinkers, who do well in reading and writing, may struggle with science. Few of the group reported success in math, as one student said: "Nothing helps with math."

"Avoid giving any attention to behavioral problems." This very candid commentary from a visual, spatial, tactile, and kinesthetic student sheds some needed light on behavioral problems:

> I felt the only thing I was good at was art. I was uncomfortable in academic classes and as a result was in trouble a lot for being the class clown. I don't think they ever really understood what type of a learner I was. I would thrive by getting feedback from my behavior and focused on getting attention for the wrong reasons during the class. When I was satisfied with the attention I got during the class, I was too tired to begin to learn.

"Do not dismiss poor academic performance as a lack of trying." Clearly, academic success for many of the artistically gifted and talented comes at a cost. They have to work hard at it. Although some are outstanding in both academics and art, many find one or more areas of academics as a challenge. One student offered that when feeling insecure, "I pretended that I was quite the contrary. I wanted to be my best and attempted to get rid of roadblocks." Finding ways to help students to use their strengths to make connection with the subject matter seems very important to their success.

"Don't categorize a student based on a test score." One student stated: "There is more potential in each child for growth of learning than one score. . . ." Many shared that they were not good test-takers. To be rendered less able, less intelligent just because one cannot achieve satisfactory scores on standardized tests greatly diminishes those who struggle with reading and writing under time constraints. For some, there is enough evidence to warrant special accommodations yet many who struggle don't meet the standards to qualify.

"Don't make assumptions based on what I look like or the students I'm with in class." Although this recommendation was not further elaborated, one might imagine that art students do, for a time, attempt to look the part of being an artist or become involved in a search for an external representation that reflects something about how they experience the world differently. They also may feel different from others and operate on the fringes of more popular cliques. That said, it is probably sufficient just to give them a chance by finding out who they are as individuals.

"Take risks." One student offered: "I suppose my work got better when

my art teacher (before I considered myself as an artist) told me I was wasting my talent by not applying myself to my work."

"Leave room for failure." For students who prefer to figure things out for themselves, room for failure is essential. "Sometimes I learn more from a failure than a success," said one who further elaborated that teachers should find ways to recognize students who solve a problem differently, solve a different problem, or whose efforts fail in spite of trying.

"Give me opportunities to follow my own interests and passions." Last but very important is this notion of offering students independence. Highly able students may not need or want a lot of direction. They feel anxious, frustrated, and start to lose interest if they have gotten the point. Overexplanation raises anxiety. "I just get anxious to try it myself." As well, these students are very creative and may have personal interests and passions that can enrich their learning, and the whole of their learning community. Perhaps they can take learning farther than their teachers can imagine, to deeper levels and broader applications. This is generally true for all gifted and talented students including the academically challenged, artistically able.

Concluding Thoughts

This study has generated some ideas about how to foster academic achievement among the artistically, spatially, and kinesthetically gifted, that, although not new news to educators, does affirm the use of strategies associated with teaching to multiple intelligences and different learning preferences as well as using multisensory and holistic approaches. Yet, maybe it is the way these students articulate their needs and make recommendations that serves as a reminder of just how critically essential it is to engage visual, tactile, kinesthetic, hands-on, and creative strategies in our teaching. Just as important is the creation of safe and nurturing learning environments making it possible that all students, no matter their gifts, talents, and challenges, can feel successful. The patterns emerging from this study begin to suggest relationships between achievement in specific academic and artistic profiles, a topic that bears more investigation. Yet, the overall finding of this study is that how we teach makes a difference in how students think of their abilities, challenges, and potential; the confidence they feel from being successful as learners; and ultimately what they aspire to do with their gifts and talents. GCT

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Author's Note

I would like to express my gratitude to the 2008 graduating class of the Master of Arts in Teaching Program at the Maryland Institute College of Art. Their willingness to share, openly and candidly, personal perceptions and experiences suggests their interest in helping others like themselves, as well as their own heightened awareness of what it takes to teach diverse learners well. I also would like to thank Dr. Joan M. E. Gaither for permission to conduct this study within the context of her course.