

**ART TEACHERS' PERCEPTIONS ABOUT VISUAL ARTS GIFTEDNESS: CONTENT
AND CONSTRUCT VALIDATION OF PERCEPTIONS ABOUT ART GIFTEDNESS**

by

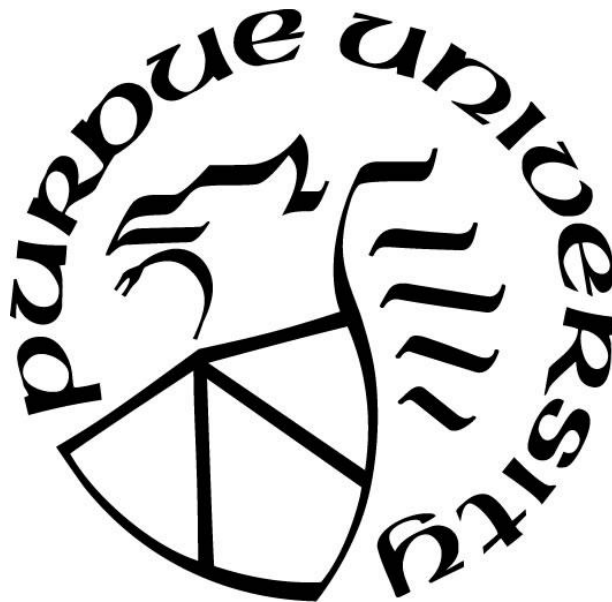
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ABSTRACT

In 1972, visual arts giftedness was recognized as an aspect of giftedness that needed to be nurtured and developed (Marland, 1972). However, students with gifts and talents in visual arts continued to be overlooked in the field of gifted education. Addressing these gaps in the field of gifted art education, I conducted a mixed methods study to examine the issues. The quantitative part of the study consisted of developing a survey instrument, Perceptions about Art Giftedness, and conducting an exploratory factor analysis (EFA) to investigate construct validity of the instrument. The initial instrument consisted of 23 items. Due to the focus of the study and the specificity of the survey, it was necessary to be selective in recruiting the participants. The inclusion criteria are: (a) they must be art teachers in an arts school or a public school that serves middle or high school grade levels; and/or (b) they must be teaching visual arts or fine arts. A total of 150 participants completed the survey. For the qualitative part of the study, I contacted the participants who completed the survey and asked if they were willing to be interviewed (n=11). Since this was an exploratory study, I began with the qualitative analysis. Three major themes were developed from the qualitative analysis: (a) attitudes and behaviors aligned with Art, (b) attitudes and behaviors aligned with giftedness, and (c) the participants' use of the selection process and the limitations. These themes highlighted how differently art teachers perceived visual art giftedness from the common understanding about giftedness and the importance of creative behaviors in art giftedness. Additionally, these art teachers also commented on the similarities between visual arts giftedness and conventional understanding of giftedness. They shared examples of characteristics, such as being self-directed and able to work independently that they observed among their gifted art students. From the quantitative analysis,

the EFA results indicated a two-factor model with Factor 1 had a Cronbach's Alpha of .89 and Factor 2 has a Cronbach's Alpha of .91, suggesting that they were reliable estimates of the data's internal consistency. After examining the factor loading for the items, four items were eliminated due cross-loading and low communalities. Of the 19 items were retained, 10 items (.467 to .895) loaded onto Factor 1 and nine items (-.451 to -.937) loaded onto Factor 2. After examining the items for each of the factor and based on the results from the qualitative analysis, new descriptors were developed. Factor 1 (dispositions towards creative giftedness) consisted of items focusing the artistic attitudes and behaviors demonstrated by students who were gifted in visual arts. Factor 2 (dispositions towards conventional giftedness) contained items focusing on attitudes and behaviors that were traditionally associated with giftedness. In summation, results from qualitative and quantitative analysis helped to illustrate how participants were looking for characteristics in gifted visual arts students that goes beyond those highlighted by researchers in gifted education. The participants were not only focused on creative behaviors when identifying gifted art students, but they were also looking for conventional gifted characteristics; such as self-directedness, independence, and task commitment. The participants recognized that for students with gifts and talents in visual arts to develop their potential, they would need to possess both sets of characteristics. Interestingly, although there was consensus among the participants about the characteristics and behaviors observed in gifted art students, there was no agreement among them when asked about specific art making skills.

CHAPTER 1. INTRODUCTION

The identification of students with gifts and talents has always been a point of contention in the field of gifted education. Issues have stemmed from the definition of giftedness (Feldhusen & Jarwan, 2000; Gentry, 2009; Van Tassel-Baska, 2005), and the validity of instruments used in the identification process (Lewis, DeCamp-Fritson, Ramage, McFarland, & Archwamety, 2007; Lohman, Korb, & Lakin, 2008; Naglieri & Ford, 2005; Sabol, 2006b) have been and remain topics of interests for many researchers (e.g., Borland, 2003; NAGC, 2010; Renzulli, 1978). However, many researchers have focused their studies on students with gifts and talents and their performances within academic subjects such as reading and math. Few researchers have examined the identification practices used to find students with gifts and talents in non-academic subjects (e.g., visual arts and music). This is an area of concern.

In the *Education of the Gifted and Talented Report* (Marland, 1972), recommendations were made to include giftedness in visual arts, music, and drama. As the field moved forward, the National Association for Gifted Children (NAGC) (n.d.) defined giftedness as:

Gifted individuals are those who demonstrate outstanding levels of aptitude (defined as an exceptional ability to reason and learn) or competence (documented performance or achievement in top 10% or rarer) in one or more domains. Domains include any structured area of activity with its own symbol system (e.g., mathematics, music, language) and/or set of sensorimotor skills (e.g., painting, dance, sports) (para. 5).

Thus, although students with visual arts giftedness are being recognized as part of the gifted community, little has been done to improve understanding of them, especially their characteristics, needs, and how to identify and serve them. In comparison, different forms of

standardized tests, intelligence tests, and non-verbal tests have been developed to purportedly improve identifying and serving students with gifts and talents in the academic subjects. In 1993, the US Department of Education released another report, *National excellence: The case for developing America's talent*, which highlighted the plight of the gifted and talented students then. The lack of effective and challenging programs and services to meet the needs of the students, the underrepresentation of gifted students from low income families and/or from some ethnicities, as well as the over-reliance on general intelligence tests when identifying gifted students were some of the issues mentioned in the report. However, the issue of interest to this study is the treatment of students gifted in nonacademic areas that was highlighted in the report:

As a culture, we admire and reward the brilliant, creative mind after it has invented something practical or produced tangible results. Yet we are not inclined to support those who want to pursue an artistic or intellectual life, and we find ways of discouraging those who want to do so. (US Department of Education, 1993, p.13).

With more than 40 years since the release of Marland report (1972) and 26 years since the release of the National Excellence report (1993), it is pertinent to start thinking about students who are gifted in visual arts and what can be done to meet their needs.

Identifying Students with Gifts and Talents – Research and Issues

In the field of gifted education, an abundance of literature exists regarding the identification of students with gifts and talents. Researchers have shown that students will not achieve their academic potential without proper support and services (Subotnik, Olszewski-Kublius, & Worrell, 2011). Thus, it is important for teachers to be able to identify these students and provide them with the services needed to develop their potential. Starting with the definition of giftedness, researchers continue to push the boundaries of the term giftedness. However, there

are also researchers who continue to support a definition of giftedness based on a potential of gifts versus those who support a definition based on a manifestation of gifts (e.g., Borland, 2003; NAGC, 2010; Renzulli, 1978). It is important to keep in mind that the many definitions of giftedness often lead to variations in identification methods for students with gifts and talents. Using a definition that focus on intellectual and academic achievement, many states are now adopting a definition of giftedness that is more holistic by including non-academic areas such as leadership, and visual and performing arts. However, the intellectual-and academic-focused definitions continue to outnumber the others (NAGC & CSDPG, 2015).

Moving beyond definitions, changes can also be seen in methods of identifying students with gifts and talents. These changes are attributed to the widening definition of giftedness. With definitions of giftedness that focus only on intellectual and academic abilities, identification methods rely heavily on the use of standardized tests of achievement and ability, which include state-based achievement tests and IQ measures (NAGC & CSDPG, 2015). This limits the access to being identified and served for students with gifts and talents . In contrast, the development of non-verbal assessments, teacher recommendations, and other multiple criteria components can provide access to gifted services to a wider gifted population as they are more aligned with the inclusive definition of giftedness of NAGC (n.d.). Some researchers claimed that incorporating potential as part of the identification process would create a more inclusive model for gifted programming (Feldhusen & Jarwan, 2000; Passow & Frasier, 1994; Renzulli, 1978; Sabol, 2006b).

It is heartening to note that research in this area is beginning to show some results. In the 2014-2015 State of States report by the Council of State Directors of Programs for the Gifted (CSDPG) and NAGC (NAGC & CSDPG, 2015), there were 17 states that used IQ scores and 15

states that used achievement scores as part of the identification process. However, 25 states also reported using a multiple criteria model for their identification process even though it is unclear what criteria were used in these states (NAGC & CSDPG, 2015). Thus, it is undeniable that the continuous research in identification practices had helped to provide students with gifts and talents access to opportunities and services needed to develop their potential.

Identifying Students with Gifts and Talents in Visual Arts – Research and Issues

Although much headway has been made in the field of gifted research, it is different when the focus is on students with gifts and talents in visual arts. In this study, I am using the terms “visual arts” and “art” synonymously. Both terms refer to the discipline of art and its various components such as fine arts (e.g., painting, drawing, and sculpture), design (e.g., architecture and fashion), and multi-media (e.g., animation and film). Much research and development of identification assessments for students who are gifted in art were developed prior to the 1950s (Clark & Zimmerman, 1984). These assessments examined students’ art abilities in terms of drawing abilities, art judgment, and art aptitude. Some of the assessments developed during this period are *Scale for the Merit of Drawings by Pupils 8 to 15 Years Old* (Thorndike, 1913), *Knauber Art Ability Test* (Knauber, 1932), *Horn Art Aptitude Inventory* (Horn & Smith, 1945), *Tests of Esthetic Appreciation* (Thorndike, 1916), and *Meier-Seashore Art Judgment Test* (Meier & Seashore 1929) (Clark et al., 1987; Gardner, 1996). However, many of these tests were too simple and were proven not to be a good measurement of students’ art ability or aptitude (Clark & Zimmerman, 1984).

After the 1950s, few researchers worked on the identification of students with gifts and talents in visual arts, but some significant identification assessments were developed during this period. The *Drawing Characteristics Skills* by Eisner (1967), and *Clark-Gareri Drawing*

Assessment by Clark and Zimmerman (1986) are two drawing tests that assess students' drawing abilities. Unlike the drawing tests developed earlier, clear criteria and rubrics guided the assessment process for *Drawing Characteristics Skills* and *Clark-Gareri Drawing Assessment*. This helped to reduce the issues of subjectivity that had plagued art assessments previously. Although these tests are rarely used in today's schools to identify students with gifts and talents in art, the influence of these tests can still be seen, as many art programs include a drawing assessment as part of their selection process.

Currently, many art schools in the United States (US) use various identification methods when identifying students with gifts and talents in art for their programs. In addition, it is also important to consider the purpose of different arts school. For example, Design and Architecture Senior High (DASH, 2018) in Miami is a public magnet arts school that has an architecture and design focus. In contrast, the High School for the Performing and Visual Arts (HSPVA, 2018) in Houston has programs that include various media and emphasize critical thinking and exploration of the different media. Thus, it is important to align the identification methods with focus of the visual arts programs. Some of the common identification methods included portfolios, interviews, and performance tasks, such as drawing tests. Researchers in the field have argued in favor and against many of these art assessments (Dorn & Sabol, 2006; Graham & Sims-Gunzenhauser, 2009; Hoepfner, 1984; Sabol, 2006b). Furthermore, many of these identification methods were developed locally, and it was unclear how the works were being assessed. This is a concern as many of these identification methods raise issues of reliability and validity when used to identify students talented in visual arts (Burton, 2001; Clark & Wilson, 1991; O'Donoghue, 2011).

Visual Arts Standards and Visual Arts Assessments

The field of visual arts education in the US is not without clear national standards and assessments. The National Assessment Governing Board (NAGB, 2008) developed an arts framework highlighting the purpose and development of arts assessment. One of the recommended guidelines is to go beyond looking at artworks and to consider visual arts students' knowledge, attitudes, and performance during the assessment process. Further, NAGB also recommended the inclusion of verbal or written art assessments, and not just the artworks. Besides assessment guidelines, the framework also lists knowledge and skills that serve as standards when students create or respond to artworks. However, it is unclear on the expectations for students with gifts and talents in visual arts and how their needs will be met. It is also unclear how schools will respond to the need for alternative assessments.

The National Coalition for Core Arts Standards (NCCAS) also released a framework for arts education in 2014. With this framework, NCCAS provided a list of National Core Arts Standards grouped into four components, *Creating*, *Performing/Presenting/Producing*, *Responding*, and *Connecting*. In each component, pre-kindergarten to high school levels standards are provided, along with questions to guide students' learning process. Examples of instructional objectives listed under *Responding* are "Select and describe works of art that illustrate daily life experiences of one's self and others" at Grade 1 and "Analyze how responses to art develop over time based on knowledge of and experience with art and life" at high school advanced level (NCCAS, 2014). It is interesting to note that only the high school standards are differentiated into three tracks, *Proficient*, *Accomplished*, and *Advanced*. A possible explanation could be that in high school, students do not take art courses by grade level. Hence, it is possible for the art courses in high schools to have students from freshman to senior, and the different tracks could help teachers in their teaching.

In addition to the National Core Arts Standards, NCCAS also developed Model Cornerstone Assessments, a series of sample assessments for Grade 2, 5, 8, and high school levels (NCCAS, 2014). Like the standards, there are also three tracks available for high school assessments, *Proficient*, *Accomplished*, and *Advanced*. In the example provided by NCCAS, these high school assessments shared the same theme and differed in their demands. At all levels, elementary to high school, a list of differentiation strategies is also provided to help teachers modify instructions to meet the needs of the different students they have in their classroom. However, only one of the strategies, “encourage students with high ability to modify or interpret outcomes to capture greater levels of complexity or sophistication in interpretations of ideas or topics”, clearly addresses the needs of students with gifts and talents.

Purpose of the Study

As the field of gifted education advances in defining giftedness, the process of identifying and serving students with gifts and talents in visual arts is gradually being left behind (Clark & Zimmerman, 1984). Issues such as reliability and validity of identification methods used when identifying students with gifts and talents in visual arts and the reliance on skills-focused assessment such as drawing tests or portfolio, continue to plague the field of gifted art education (Burton, 2001; Clark & Wilson, 1991; Dorn & Sabol, 2006; O’Donoghue, 2011). However, before issues with the identification process can be addressed, a need exists to first have a clearer understanding of what it means to be gifted in visual arts. Thus, the purpose of the study is to understand what art teachers believe to be characteristics of students with gifts in visual arts.

Teachers are among the key stakeholders in the field of education, and they are often the gatekeepers of gifted programs (Subotnik & Jarvin, 2005). Art teachers are generally in charge of designing the selection process and criteria. They determine how the students should be

identified and which students are served. If the art teachers adopted a narrow definition of giftedness (e.g., focusing only on drawing abilities), it is reasonable to expect the identification method to be based on students' technical control of the media. Thus, it is important to understand how the art teachers' perceptions about visual arts giftedness are driving the identification process.

A second purpose of this study involves examining the various components in an identification process and the teachers' expectations. Currently, information about the selection or audition process for art schools is available on the schools' websites. However, the websites do not include specific information about the attitudes, behaviors, and skills that the teachers are trying to identify in the applicants. In this study, I will identify what teachers perceive to be key characteristics of students with gifts and talents in visual arts and how their perceptions interplay with the identification process in place at their school. The findings would be useful for researchers and practitioners in the field, helping to extend understanding about the characteristics, behaviors, and attributes of students with gifts and talents in art, as well as the effectiveness of identification methods currently used by art schools in identifying these students. The overarching research questions include:

RQ 1. What are the specifics, such as behavior, attributes, skills, knowledge, or temperament, that teachers are looking for in students with gifts and talents in visual arts?

RQ 2. What artistic attributes and behaviors do teachers observe about students with gifts and talents in art during their interaction with these students?

RQ 3. To what extent can the constructs (Art Behaviors and Art Attributes) be measured by the Perceptions about Art Giftedness survey?

RQ 4. Does the Perceptions about Art Giftedness survey generate valid and reliable data concerning teachers' perception of students with gifts and talents in the area of visual arts?

Results from this research will broaden the understanding about visual arts giftedness from the teachers' perspectives. This would serve as a foundation for future research on identification processes for art giftedness as well as services that can be provided to help the identified students develop their potentials. Art teachers may gain a deeper understanding about their students with gifts and talents and be better able to develop curricula and assessments to meet the needs of these students.

CHAPTER 2. LITERATURE REVIEW

Giftedness and Identification

Stakeholders in the field of gifted education have often had a love-hate relationship concerning defining giftedness and developing ways of identifying giftedness. From definitions that focus mainly on intelligence and academic achievements to those that consider students' aptitudes in arts, sports, and leadership, and from standard-based achievement tests to non-verbal assessment and teachers' nominations, researchers have seriously debated the topic of giftedness and identifying it (Lewis et al., 2007; McBee & Makel, 2017; Subotnik, Olszewski-Kubilius, & Worrell, 2011). However, when the focus is on students with gifts and talents, issues of elitism and 'being fair' rise to the top. The lack of consensus within the field of gifted education regarding defining giftedness and the identification processes further challenge the integrity of the field. However, changes are still taking place within the field. As such, while there is no final agreement on how to define giftedness and the best methods of identifying and serving students with gifts and talents, there are recommendations and suggestions on these issues (NAGC, 2008, 2011, 2019).

Various definitions of giftedness. The National Association for Gifted Children (NAGC) (n.d.) has adopted a broad definition of giftedness that includes different areas such as academic, sports, arts, and leadership. NAGC has also recognized the need to consider more than just demonstrated competence and has included the aptitude to learn. Even though NAGC has adopted a more inclusive definition of giftedness, the same cannot be said for the various states' departments of education. This is illustrated by examining the definitions of giftedness from 50 states (NAGC, 2013) and finding that 43 of them have an emphasis on intellectual and academic

abilities. On the other hand, only 30 states considered potential abilities as part of the definition of giftedness. In the 2014-2015 State of the States report from the Council of State Directors of Programs for the Gifted (CSDPG) and NAGC, similar findings were reported (NAGC & CSDPG, 2015). The State of the States report is a biennial report examining the various aspects of gifted education (e.g., identification practices, ethnicity of identified students, and types of gifted service provided) in the different states and territories of the US. Out of 39 states that submitted their state definitions for giftedness, 38 of them included intellectually gifted and 24 states included academically gifted and 15 for leadership. In contrast, only 21 states considered performing and visual arts giftedness. These differences in the states' definitions show how deeply rooted academic and intellectual giftedness are within the field. With few states widening their definitions to include other forms of giftedness such as arts and leadership, as well as gifted potential, it is unlikely that students who have differential gifts will receive the services they need to develop their potentials.

Influence of definitions on identification process. The definition of giftedness adopted by a state has implications on the gifted services and services being provided to the students. States that adopt a definition of giftedness that focuses on intellectual and academic abilities are more likely to use IQ scores and standardized achievement tests as their identification methods (US Department of Education, 1993). However, by focusing only on achievements and demonstrated giftedness, these states are overlooking students who may not test well, as well as students who do not have the same opportunities for learning as their peers (Sabol, 2006b). Further, students who are learning English or who come from a different culture could also suffer from test bias and not be identified (Passow & Frasier, 1994). These groups of students may have the potential for giftedness, but because they are unable to fully demonstrate their abilities, they

are often missed in the identification process (Feldhusen & Jarwan, 2000; Passow & Frasier, 1994).

In contrast, 25 states reported using a multiple criteria model, and seven included nominations as part of their identification processes (NAGC & CSDPG, 2015). Although it is unclear what criteria were used in their multiple criteria model and the nominations, it is a move in the positive direction to consider alternative methods of identifying students and not simply relying on their academic achievement or IQ scores. The need to be more inclusive when defining giftedness and identifying gifted individuals is not new.

Development of Identification Process for Students with Gifts and Talents in Visual Arts

Students with gifts in the visual arts were recognized as part of the gifted and talented community in the Education of the Gifted and Talented Report (Marland, 1972). However, in the National Excellence Report released in 1993 by the US Department of Education, there was little improvement in their situation. The emphasis on general intelligence and academic achievement resulted in the limited focus on students who are not gifted in the academic areas. As such, there was little progress made in developing identification methods and relevant services for students with gifts and talents in visual arts. Furthermore, much of these identification practices developed then relied heavily on the teachers, and there was little agreement on what was visual arts giftedness (Clark & Zimmerman, 1992). Fast forward to the current society, several issues continue to complicate the identification of students with gifts and talents in visual arts, especially in terms of what to identify and how to identify, as well as how the identified students should be served (Haroutounian, 2017). Thus, it is no surprise that little consensus in the field exists other than the agreement that there is a need to identify and serve these students with gifts and talents in visual arts.

Development of identification measures from 1913 to 1986. As early as the 19th century, researchers studied the genetics of intelligence and identification of these gifted individuals (Clark, Zimmerman, & Zurmuehlen, 1987; Sternberg & Davidson, 2005; Terman, 1926). However, the interest in examining art giftedness and developing methods of identification started slightly later at the beginning of the 20th century. Unlike the other identification methods developed for general giftedness, in which students took a test to assess their abilities, Thorndike (1913) evaluated students' abilities by comparing their art works. His Scale for the Merit of Drawings by Pupils 8 to 15 Years Old was one of the earliest art assessments aimed at differentiating students by their art abilities. However, because the scale requires comparison among students, it is not effective when trying to ascertain the skills and potential of an individual student (Thorndike, 1913). Although Thorndike started by measuring students' art abilities through their drawing skills, he realized that there was a need to assess the sense of aesthetics in the students. In 1916, Thorndike developed the Tests of Esthetic Appreciation. They were one of the earliest methods developed to assess sense of aesthetics by requiring students to make a selection among different images based on the principles of design. However, the content of the tests was too simple, and Thorndike recommended using the tests only for additional consideration.

These two identification measures from Thorndike set the trend for most measurements of art abilities that followed, focusing either on skills or sense of aesthetics. Identification measures that focused on measuring the student's ability to draw included: Knauber Art Ability Test (Knauber, 1932), Drawing Characteristics Skills (Eisner, 1967), and Clark-Gareri Drawing Assessment (Clark & Zimmerman, 1986). Although these tests were designed to evaluate the student's ability, they did not evaluate the same aspect of art abilities. In Drawing Characteristics

Skills, the evaluation focus on the students' sense of spatial treatment to determine the student's level of performance; whereas, Knauber Art Ability Test and Clark-Gareri Drawing Assessment made use of a series of small drawing tasks to evaluate students' art abilities such as creativity and aesthetics through the arrangement of the subject matters in their drawings (Clark et al., 1987). Further, other tests for students' sense of aesthetics were also developed such as Horn Art Aptitude Inventory (Horn & Smith, 1945), and Meier-Seashore Art Judgment Test (Meier & Seashore 1929) (Clark et al., 1987; Gardner, 1996). However, these tests suffered the same issues as Thorndike's Tests of Esthetic Appreciation and were considered too simplistic to yield valid measurement of students' visual arts abilities.

Besides drawing tests developed to measure students' talent in visual arts, researchers during this period also developed drawing tests used to measure other non-art related areas. One example is the Draw a Man Test by Goodneough (1924), which was designed as an alternative to identify gifted children and measure general abilities. Although it was a drawing test and students were asked to draw a picture of a person to the best of their abilities, it does not assess students' drawing skills. In the scoring rubrics, points were only awarded in terms of details the children could capture in their drawings. No point was given to any of the artistic constructs such as elements of art and principles of design. The rationale behind the test was situated in the children's abilities to observe and remember things they saw around them, which was then transferred into drawings of a man (Anastasi & D'angelo, 1952). However, subsequent research on the reliability and validity of data from the test cast much doubt on the instrument, especially when considering the influence of culture, both ethnic and social (Anastasi & D'angelo, 1952; Britton, 1954; Colom, Flores-Mendoza, & Abad, 2007; Dennis, 1942; Haward & Roland, 1954).

The Silver Drawing Test (Silver, 1983) is another drawing test that was designed and used to measure something other than the participants' art abilities. In the Silver Drawing Test, the participants had to select one or two images from a set of stimulus images. They were asked to imagine an interaction between the selected images and draw that interaction. The participants were also encouraged to provide writing to elaborate on their drawings and to discuss. Although the participants had to imagine, create, and draw, the scoring for this test was based on the emotions and self-image portrayed by the participants in their drawings as well as the application of humor (Silver, 2003). The cognitive development of the participants was also measured through the discussion and writing provided.

Although a variety of drawing tests and scales were developed from 1913 to 1986, researchers were unable to reach a consensus on the abilities and aptitudes that can be attributed to students' performance in visual arts and in some cases their cognitive development. Additionally, there was also no agreement on how to assess and measure students' art abilities. Thus, as the field of gifted education moved ahead with models of talent development and identification tests for giftedness, the development of art identification practices remained unclear.

Development of identification measures post-1986. Identification measures for visual arts giftedness showed some improvement post-1986. Students with gifts and talents in art were given multiple tasks to measure their visual arts abilities. The tasks may include drawing assessment, portfolio assessment, interview, or art critique. The use of multiple criteria helped to address issues of social and cultural influence as recommended by NAGC (2011) and researchers alike (Renzulli & Reis, 2012; VanTassel-Baska, 2005). However, issues of coherency and consistency continued to plague the field. This is because many of these methods were locally-

developed by the teachers and used by the schools without any form of standardization of the measurement. Furthermore, questions about the validity of the data resulting from these assessments were also raised as they were designed by the teachers who have specific ideas about what they were looking for in students with gifts and talents in art. Thus, how comparable could identified students from different schools or programs be to each other? This is something important to consider especially with the growing mobility of the population in which students frequently move from one art school to another. Can this be done seamlessly?

Concerns about performance tasks. A common task in most of the selection processes is the performance task where students are expected to complete some drawings, usually three pieces, within a set amount of time. These drawings can be done through direct observation or their imagination. At first glance, this seems to be a reasonable task and a good measurement of the students' art abilities, as drawing is often viewed as a foundational skill for visual arts students, and it is also a core skill upon which other skills are built (Clark & Zimmerman, 1992; Coutts & Dougall, 2005; Hickman, 2010; Rose, Jolley, & Burkitt, 2006; Stalker, 1981). However, the use of time constraints raised the question about what is being measured under such time pressure? This is an area of concern, as not all students perform well under time pressure. Depending on the task, some students with gifts and talents visual arts art may take more time to think and ponder than others. Further, some students may suffer from test anxiety, which would adversely affect their performance. In these cases, the performance task may be creating a Type I error; thus, missing potential students with gifts and talents in visual arts.

Concerns about portfolio assessment. Portfolio assessment is also commonly found in most of the selection processes for talented art students. Like the performance task, it allows students to showcase their visual arts talent through creating works of art. This can be two-

dimensional drawings, design pieces, or three-dimensional works. A portfolio is a good alternative for the students to demonstrate a greater range of their artistic abilities (Aksoy, 2008; Dorn & Sabol, 2006; Graham & Sims-Gunzenhauser, 2009) without the added stress of time constraint. However, some art schools are limiting the number of works to be submitted in a portfolio, and some also listed the genres the students should have in their portfolio (e.g., The Chicago High Schools for the Arts, 2019; Arts High School, 2019). By having these parameters, it is easier for the schools to compare the students' artworks and their abilities, but this may also prevent the students from showcasing the full range of their potential. Students participating in the identification process may come from various backgrounds and have different levels and quality of art education. Their prior experiences in art will also determine their level of performance according to the set parameters. In addition, not all students know how they should keep a portfolio, especially when they are not taught how to do it in schools (Burton, 2001; Clark & Wilson, 1991).

Concerns about interviews. Another method for identifying students with gifts and talents in art is the interview. However, little research exists concerning the validity of using interviews as a selection method in the field of education (Ryser, 2011). This is disconcerting as in the field of management and organization, in which interviews are commonly used to select employees for companies, issues of implicit bias and interview structure are raised and examined (Buckley, Norris, & Wiese, 2000; Judge, Cable, & Higgins, 2001; Purkiss, Perrewé, Gillespie, Mayes, & Ferris, 2006). These issues have the same implications when used to select students with gifts and talents in visual arts. Purkiss, Purkiss, Perrewé, Gillespie, Mayes, and Ferris (2006) examined the influence of ethnicity, names, and accents on interview decisions. Through the study, the researchers found that the combination of ethnic name and accent disadvantaged

the candidates the most; whereas, candidates with ethnic names but no accent were met with greater approval. Such implicit bias is not a new phenomenon, but researchers are still uncertain on how to limit its influence (Judge et al., 2001). During the identification process for students with gifts and talents in visual arts, factors such as students' prior experiences, intensity of art education received, personal and cultural influences, as well as language abilities, affect the student's performance during the interview (Purkiss et al., 2006). Students who are more verbally fluent, have access to an art-rich environment, and a greater command of the language, have an advantage over those who may not have the same the opportunities in their lives. Thus, it is important to consider such confounding factors when using interview as part of the selection process.

Although a variety of identification methods are being used to select visual arts students for gifted programming, the focus of the identification measures is still on the process of art making (Clark & Zimmerman, 1992; Haroutounian, 2017). This is seen with performance task and portfolio as large components of the identification process, where some schools provide details about their expectations. The same cannot be said about the interview process, where details about the process are not readily available. It is possible that students' appreciation and perception of art may be addressed during the interview process, but with the little information currently available, it is not possible to be certain. Regardless, the identification of visual arts giftedness should look beyond art production. Not all students with gifts and talents in visual arts are talented in art production, and some students' strength may lie in art analysis and criticism (Sabol, 2006b). How can these students be identified and served? The world of art needs more than talented artists. There are roles such as art historians, art critics, and art writers, which also need to be considered. Thus, it is important to think about how students who are gifted in art

history, art writing, art criticism can be identified and provided with appropriate service to nurture and develop their potentials.

Difficulties in Measuring and Assessing Visual Arts Giftedness

The process of identifying students with gifts and talents is difficult and complex. This is something that is not unique to visual arts. Even in the field of gifted education, there are still continuous debates concerning the definition of giftedness, merits of potential versus achievement, and the validity and reliability of various identification methods (Lakin & Lohman, 2011; Lee & Olszewski-Kubilius, 2006; Renzulli & Reis, 2012). Examples can be seen with Renzulli's (1988) Three-Ring Conception of Giftedness (TRCG) in which he advocated for the identification of gifted behaviors instead of gifted individuals as in Gagné's (2004) Differentiated Model of Giftedness and Talent (DMGT), in which he differentiated between gifts and talents, with gifts being the innate abilities and talents as learned skills. Other areas of debate include the validity and reliability of non-verbal assessments that were developed to improve the identification rate of African American, Hispanic, and Native American students (Lakin & Lohman, 2011; Lohman, 2005; Naglieri & Ford, 2005). Similar issues are faced in the identification process for visual arts giftedness, in which there is the need to account for cultural and social influences on students' mode of expression and the student's access to art resources and materials. These issues are further complicated by the multiple aspects of visual arts that need to be considered, such as art production, visual perception, art criticism, and art attitudes.

Different forms of visual arts talents. It is not possible to talk about art education and visual arts talents without first addressing the topic, art. What is the purpose of art? What are the various perceptions about art? These questions do not come with a single answer and are different to answer, but they are important for all stakeholders in the field. Educators need to

consider the purpose of art when designing the selection process. Why are they identifying visual arts students who are gifted in a specific area? What kind of service will these students receive? In addition, educators also need to consider the perceptions these students have about art and how these influence their judgment and value system when they evaluate artworks. With the complexity in the field of art education, the discipline-based art education (DBAE) approach and its four components, aesthetics, art criticism, art history and art production, provides a way to organize the ideas and criticism for different dimensions of visual arts (Gardner, 1996).

Art production. Dewey (1934) wrote about art as an experience, with the process of art making as a key component of the experience. Thus, it is not surprising that a large part of art education focus on getting the students to create art works. The importance of art making is also extended to the selection process for art schools and colleges, where performance tasks form the key component. However, the reliance on performance task and portfolios to identify students with gifts and talents in visual arts is not ideal (Dorn & Sabol, 2006; O' Donoghue, 2011), as the amount of structure in an art production test is inversely proportional to its reliability as a measure of students' abilities (Hoepfner, 1984). Students exhibit gifted behaviors such as a sense of curiosity, originality of thought, and openness to experience (Renzulli, 1990) better with less structure and restriction in the performance task. This provides a better measurement of art giftedness. Sternberg (1984) also highlighted the connection between intelligence and decision-making skills in his Triarchic Theory of Intelligence. Thus, by having less-structured performance tasks, students with gifts and talents in art have greater opportunities to make decisions about their creative process, allowing the evaluators to have a better sense of their talent. Although less-structured tests are useful in assessing the students' gifted potential, they can be difficult to score as there might be little ground for comparison among the students'

works. In contrast, when the performance task is well-structured with a specific set of criteria, the assessment of the students' work is easy since all art works must adhere to the same criteria. However, such assessment may inhibit the students from showcasing their gifts and potential (Hoepfner, 1984).

Like the field of general giftedness, visual arts giftedness is not spared the debate between the identification of potential or identification of achievement. In the DMGT model, Gagné (2010) distinguished between perceptual abilities, which he considered natural abilities, and arts skills, which he identified as learned competencies. This distinction highlights students who may be gifted with high perceptual abilities but who do not have the opportunities or the necessary environment to develop these abilities. Thus, they are unlikely to do well in an assessment focused on measuring performance and achievement. Furthermore, Kárpáti (1997), using national surveys from Hungary, highlighted the weak correlation between art production and visual perception. Kárpáti found that students who have strong drawing skills do not necessarily show the same level of performance in their art criticism, which required the students to reflect, analyze, and self-critique. Essentially, there is a need to reconsider the amount of emphasis art production currently has on the identification and what such assessments are evaluating.

Aesthetics and visual perception. Aesthetics is defined as individuals' perception of visual elements such as lines, colors, and forms. Researchers in the field of general giftedness and visual arts giftedness have highlighted aesthetics sensitivity as a characteristic of giftedness (Gagné, 2010; Meier, 1928; Renzulli, 2002). In Gagné's (2010) DMGT model, individuals who are sensitive to visual elements such as lines, colors, and forms are gifted in the perceptual domain. Similarly, Renzulli (2002) highlighted sensitivity to visual elements as a characteristic

of giftedness in his TRCG model. Classified as aesthetic judgment under Meier's six factors of art abilities, Meier (1928) considered the ability to recognize different forms of interaction among the elements and principles of art as gifted behaviors (Clark et al., 1987). In addition, Meier (1928) and Thorndike (1916) tried to assess individual sense of visual perception by developing tests that measure the sense of aesthetics. However, as previously discussed, these tests often trivialized the complex interaction between and among the elements and principles of art and have little consideration to the individual's' cultural and social influences.

It is difficult to evaluate the individual sense of aesthetics. Tests created to do so often focus on the formal aspects of aesthetics such as the technical use of art elements and design principles (Hoepfner, 1984). A possible explanation is that it is easier to evaluate students' sense of aesthetics by focusing on their use of lines, colors, or overall composition. However, it is important to consider the influence of social and culture during the evaluation process as these factors will affect the student's sense of aesthetics. For example, the use of perspective in European paintings and Chinese paintings are vastly different (see Figure 1). In most European paintings, the artists adopted a linear perspective with a fixed vanishing point. However, in many Chinese paintings, the artists made use of shifting perspectives with multiple vanishing points (Law, 2011). Thus, students who are influenced by the Chinese painting may create artworks that apply the principles of design differently, and unless the evaluators are aware of the cultural influence or the students have the opportunity to explain their works, these students may not be identified.



Figure 1. Comparing the use of perspectives between Camille Pissarro, *Côte des Grouettes, near Pontoise*, probably 1878, Oil on panel and Fa Ruozhen, *Cloudy Mountains*, 1684, Hanging scroll, ink and color on silk. From The Metropolitan Museum of Art.

In addition, Hoepfner (1984) highlighted concerns about the current tests of art perception. Are they measuring students' sense of aesthetics or what the students had learned in schools? This is a reasonable concern, as Dewey (1934) pointed out, art is a discipline that needs to be taught. The amount and quality of art education received by the students and their language ability can influence their performance in this area.

Art history and art criticism. Art history and art criticism are aspects of art that are hardly addressed when measuring giftedness in visual arts students. However, both are important components of art education, shaping the students' perception and values about art (Dewey, 1934). Although Levi and Smith (1991) highlighted the need for art history and art criticism to

be introduced to the students at the beginning of their art education, this rarely happens. Through a survey of secondary school teachers, Burton (2001) found that only 17% of the art teachers provided opportunities for students to learn about art history and engage in art criticism. Thus, many students may not have the opportunity to learn art history and art criticism. Yet, as the field of art education develops, teachers increasingly expect their students to express their thoughts as reflections on presented artworks, either as verbal or written statements (Keiper et al., 2009).

Art history and art criticism are important aspects to consider in the process of identification of art giftedness. In the TRCG model, considerations are given to students' abilities to express their thoughts and opinions (Renzulli, 1990). With the DMGT model, Gagné considers abilities such as reasoning, persuasion, and eloquence as gifts and groups them within the mental domain under different categories such as intellectual, creative, and social (Gagné, 2010). Davis, Rimm and Siegle (2011) also listed behaviors such as being able to connect different topics and applying prior knowledge to new situations as the characteristics of students with gifts and talents. However, for art criticism and analysis to be used effectively as part of the identification process, there is the need to consider the social and cultural background of the students when evaluating their responses to artwork. This is because art criticism is a learned skill, and a reflection of what the students have learned in the formal education system of schools and the informal education of family and culture. This may lead to students expressing their views in relation to their cultural understanding of colors, lines, and even symbols, which may not be true to the artist's intent. The same understanding can be applied to art history where students' prior education and experiences shaped their interpretations of artworks. As Levi and Smith (1991) had highlighted a "value-free art history is not possible" (p.57).

Art attributes and behaviors. Although art attributes and behaviors are not components of DBAE, it is crucial to consider these factors as they are integral in many talent development models. Gagné (2010) included a new category of goal management to intrapersonal catalyst in his revised DMGT model to better capture attributes such as sense of autonomy and ability to persevere possessed by students with gifts and talents. In TRCG model, Renzulli (2002) clustered attributes such as perseverance, determination, self-confidence and high level of interest under task commitment. In the field of art education, Meier (1928) made references to aspects of art behaviors such as students' abilities to focus on the art tasks and showing preference towards art. Yet, in the current methods used to identify students with gifts and talents in visual arts, there is little attention to the students' attributes and behaviors towards art. The focus remains on the student's ability to create art and their understanding of aesthetics.

Art attributes and behaviors can be difficult to measure during the identification process. In addition, students' expression of art behaviors may be affected by factors such as stress, time constraint, and their natural ability to express themselves verbally. Attribute, being an internal emotional condition, may not be expressed by the students during the identification process (Hoepfner, 1984). Thus, art attributes and behaviors are rarely considered during the identification process. However, some researchers argued that students' attributes towards art can be measured through the interview process, their portfolio assessment, and their self-nomination forms or essays (e.g., Dorn & Sabol, 2006; O'Donoghue, 2011). Through these assessments, schools and teachers can find out how passionate the students are about art and their sources of motivation. Although these methods can capture some of the art attributes such as interest and motivation, they are not able to measure all aspects of art attributes such as perseverance, tolerance, risk-taking, and creative skills (Costa & Kallick, 2000; Eisner, 2002;

Hetland, Winner, Veenema, & Sheridan, 2007). Students' level of risk tolerance, their sense of creativity and adaptive skills need to be considered, as these attributes likely shape their responses during the learning process and when reacting to difficulties (Costa & Kallick, 2000; Eisner, 2002; Hetland et al., 2007; Kárpáti, 1997).

Other considerations. In gifted education, researchers developed methods of identifying students with gifts and talents using non-verbal identification measures such as pictorial and figural tests (Lohman, 2007; Naglieri & Ford, 2003; Raven, 2000). Although there are ongoing debates about their efficacy, these non-verbal identification measures served as an alternative way to identify populations of students who may otherwise be missed due to their language abilities. As such, the use of non-verbal identification measures is something that the researchers in the field of gifted art education need to consider, especially when there is an increasing emphasis on students responding to artworks. Are factors such as students' prior art education experiences, their age-appropriate development, and the social and cultural influence around them masking students' potentials and causing them to be overlooked by the current methods of identification? Not all students have the same access to high quality art education and art experiences. Students without such access should not be judged at the same level as those with the access. In addition, there is also the need to recognize and credit the cultural and social influences on students' creative expression and not something that has to be "untaught."

Last, Lowenfeld (1957) created the five stages of artistic development where he highlighted the type of artworks children in certain age groups can do. These five stages are, *Scribble*, *Preschematic*, *Schematic*, *Dawning Realism*, and *Pseudo-Naturalistic*. The five stages connect children's development age to the kind of artworks that can be expected from them. In the Scribble stage, young children between the ages of two to four years old express themselves

through scribbles due to their limit motor skills. There is little meaning in their works as the focus is on marks making. At the Preschematic stage, children who are between the ages of four to seven, are trying to make connections between what they draw and the real world. They are beginning to use simple shapes to represent the real world. At the Schematic stage, seven to nine year old children have developed definite ideas about the world and the ways to depict them. However, there are variations among children based on their education and life experiences. The next stage is Dawning Realism. At this stage, children aged nine to 12 years, become increasingly aware of the details of things around them, but they can be selective on what they choose to depict, focusing only on details meaningful to them. The fifth stage is Pseudo-Naturalistic, where 12 to 14 years old youths gain better understanding of depicting humans and three-dimensional objects on paper. Some talented youth are also able to understand the effect of lights and colors and use that understanding effectively to create realistic imagery in their artworks. However, little research has been done on the influence of education, as well as social and cultural interactions on these developmental stages. Additionally, society had advanced considerably since Lowenfeld's time, raising the question of whether these stages still reflect individuals' behaviors?

Different levels of agreement among artists and art teachers. Subjectivity is another factor that made it difficult for researchers and practitioners to come to an agreement in measuring and assessing art giftedness. Haller, Courvoisier, and Cropley (2011) highlighted the issue of subjectivity in their study comparing the opinions of experts and novices in assessing a creative product. Haller and her colleagues found several factors influencing the evaluation process. The experts and novices had varied approaches when evaluating the creative works, which led to different opinions about the level of achievement. The opinions of the experts and

novices differed due to the level of mastery and familiarity about the craft or project possessed by the individuals. Haller et al. showed a lack of consistency in the assessment process between experts and novices.

Conversely, Clark and Wilson, in their study of using the Clark' Drawing Abilities Test (1991) to identify students with gifts and talents in visual arts, found high levels of agreement among the teachers when they used carefully crafted rubrics to assess student works with the primary criteria focusing on the level of realism depicted. Although Clark and Wilson showed that consensus can be achieved when outcomes are clearly expressed in rubric formats, the use of drawing tests and need to focus on how realistic the students' works are evoke issues that have been highlighted in previous sections. Further, Sabol (2006a), in his study on assessment criteria for visual arts, found that the level of agreement in assessment is similar between art teachers and their students. This is not surprising as the students are used to the expectations of their teacher. However, different teachers or panels of experts will assess students when they apply for art school admission or are identified for gifted art programs. The expectations and standards vary among these individuals and the institutions they represent, which in turn reduces the level of agreement between the two groups. Sabol also highlighted the different values art teachers, art students, and artists place on the various assessment criteria, such as mastery of skills and creative expression. These differences further complicate the process of assessing and identifying students with gifts and talents in visual arts.

Art Teachers and Their Influences

Teaching is frequently viewed as the act of imparting of knowledge. However, teachers often do more than that. Within the art classroom, teachers should role-model the skills they teach, provide one-to-one guidance to the students, and inspire creative ideas. Most importantly,

they are the gatekeepers to gifted services and programs (Subotnik & Jarvin, 2005). Teachers spend much time in the classrooms interacting with students. The effects of these interaction are twofold. First, teachers' implicit and explicit values and beliefs become evident in the way they teach—the quality of the lessons, and the expectations of students' behavior and achievement (Rosenthal, 2002). Second, as formal standardized identification tests for students with gifts and talents in art exists, the selection of art students for gifted programming rests on the teachers. The teachers' notion of gifted visual arts behaviors will directly reflect the type of students whom they consider to be gifted (Foreman & Gubbins, 2015).

Beliefs and values and their influences in the classrooms. Teachers have a powerful position within the classroom. They determine the learning environment, decide how to teach, and set the tone for learning in the classroom. As such, the influence of the teachers' implicit and explicit beliefs and values affect the quality of education received by the students (Flowerday & Schraw, 2000). Bae (2014) observed three pre-service art teachers and found the teachers' classroom management style affected the quality of art education received by the students. From the study, teachers who were more open to a flexible and interactive classroom, were able to elicit better responses from their students, improving the learning experiences for the students. Stone (2015) observed a similar effect through her survey of 319 art teachers about their beliefs concerning creativity and their students' creative behaviors. Stone found that teachers considered creating a safe environment as providing opportunities for students to develop creative behaviors, such as expressing personal opinions and actualizing their ideas. Consequently, these teachers' beliefs are reflected in characteristics that they considered to be essential in creative students, such as open-minded, risk-taker, and independent (Stone, 2015). Beyond classroom management, the quality of art education is also determined by the content of the lessons.

Teachers who incorporate art history and analysis into the lessons successfully accomplish more than the simple knowledge delivery. Through learning about art history and engaging in art discourse, students learn to make sense of their own works and in greater context, the role of art in society (Bae, 2014). However, few teachers have the skills to engage their students in verbal and written discourses about art (Burton, 2001). In the 2008 National Assessment of Educational Progress (NAEP) Visual Arts Report Card, only 27% of the Grade 8 students surveyed had opportunities to write about art at least once a month. The number is better for students talking about art at 53%, but still far from ideal. Thus, a need exists for teachers to be conscious about their personal conception of art education, as well as the values they bring into the classroom.

Perceptions about visual arts giftedness and their influences on identification.

Beyond teaching, art teachers are also gatekeepers to advanced art programs for students with gifts and talents. Considering the lack of standardized tests to identify students with gifts and talents in visual arts, teachers are often relied on to identify these students and to make the necessary recommendations to develop their talent (Subotnik & Jarvin, 2005). Researchers in gifted education have shown how teachers' recommendation contributed to issues of disproportional representation for race (McBee, 2006) and gender (Bianco, Harris, Garrison-Wade, & Leech, 2011) in gifted programs. However, researchers have also shown that teachers are able to provide valuable input essential in ensuring students with gifts and talents have access to the services they need (Foreman & Gubbins, 2015; Peterson, 1999). Foreman and Gubbins (2015) highlighted the importance of teachers' judgment when selecting students for gifted programming. In their study with 43 schools, in which Foreman and Gubbins (2015) examined the students' scores on CogAT, standardized tests, and their teacher's nomination status, they found second grade teachers' nomination of students with high learning potential could predict

students' success on higher order math tasks. Additionally, Hoge and Cudmore (1986) recommended the continued use of teachers' recommendation as part of the identification process, after examining the use of teacher-judgment measures in identifying students for gifted services. They argued that teachers have extensive interaction with their students in the classroom, which provides information about the students that might not be recognized through standardized tests. Hoge and Cudmore (1986) also urged for a clearer definition of the behaviors and aptitudes when identifying students with gifts and talents for services, which could better guide the teachers in the identification process.

An assumption exists in the field of gifted education that teachers who have taken gifted education courses, either through their pre-service undergraduate education or gifted endorsement, are likely to be better at identifying students with gifts and talents in their classrooms. However, this might not be the case. Miller (2009) examined 60 classroom teachers' conception of giftedness and found no difference between teachers who were trained in gifted education and teachers who had not received any training. A possible explanation put forth by Miller is that for teachers to change their beliefs about giftedness, the teachers need to be the ones to initiate the critical analysis of their understanding about giftedness (Miller, 2009). Although attending gifted education classes may help teachers to widen their scope of knowledge, it is not enough to shift the teachers' conception about giftedness. In addition, in the field of gifted art education, in which a gap exists in defining what is visual arts giftedness, it is critical to examine teachers' perceptions about art giftedness.

Art Education, Art Assessments, and Art Giftedness

Art assessment and art education are inextricably linked. Schools and teachers bring to their students their definition of art education, which in turn determines their art programs and

curriculum (Clark, Day, & Greer, 1987). A teacher who believes art education is about mastering art techniques will create a very different classroom environment from one who believes in creative thoughts and materials exploration. Such differences in art education beliefs will also influence the assessments teachers use and the students whom they consider as gifted in visual arts. The same can be said when examining the relationship between teachers and students. What kind of student-teacher relationship is developed in the classroom? Is it one of master and apprentice or a collaborative type of relationship? Different types of student-teacher relationships can bring about different emphases in testing.

In addition, there is also a need to consider the influences of society and culture on art education. Schools in different districts, different states, and different countries will place very different values and emphasis on art education due to the families and social influences around them. Thus, teachers will not assess their students in the same manner, and the schools will identify the same characteristics in their students with gifts and talents in visual arts. There remains a need to establish some common understanding in the identification of students with gifts and talents in visual arts, but with considerations towards the influences of society and culture.

Art standards and meeting the needs of students with gifts and talents in visual arts.

Standards do exist in the field of art education. In 1997, the National Assessment Governing Board (NAGB) developed the arts framework to assess art knowledge and art application of students. In 2008, NAGB revised the framework and developed a set of guidelines to highlight the purpose of art education as well as the use of arts assessment to evaluate students' performances. Key changes to the guidelines include how assessments should have different modes such as verbal or written, when assessing students' knowledge, attitudes, and

performance. However, these variables are only captured within two aspects of art, Creating and Responding. NAGB also highlighted the importance of considering the varied experiences of students when evaluating their achievements. In addition, the arts framework listed knowledge and skills, such as “analyzing and synthesizing experiences,” “selecting from competing ideas, media or processes,” and “evaluating ideas and form,” (NAGC, 2008, p. 22) that students should be able to use when creating their works.

All these changes and modifications to the arts framework seem to indicate a shift in art education. However, when the NAGB’s framework is examined along with the 2008 NAEP Visual Arts Report Card, the true picture is less than hopeful. Burton (2016) highlighted the mismatch between the aims and objectives of art education listed in the NAGB arts framework and the reality of art education in the US. By analyzing the survey data from the NAEP’s survey, researchers have shown that art production still dominates many students’ art experiences (Burton; 2016; Keiper et al., 2009). Few students were able to engage in art criticism through writing or talking about their works, and fewer students had opportunities to visit art museums and galleries as part of their art education. This differs from the suggestions made by the NAGB framework. In addition, Burton (2016) also highlighted the lack of opportunities for students to initiate their own projects or engage in a different craft type other than drawing and painting. This is especially a concern for students with gifts and talents who need to be challenged and provided with a range of art experiences to develop their potential. Furthermore, interest is a variable that can be found in most talent development models (Gagné, 2010; Renzulli, 1988), and like other students with gifts and talents, students with gifts and talents in visual arts need to have the opportunities to initiate projects of their own interests and passion. Last, NAGB provided descriptions of three different achievement levels—basic, proficient, and advanced—

for the two aspects of art listed in the framework. Although there were descriptions for Grades 4, 8, and 12, the framework did not make any reference to the needs of students with gifts and talents or any recommendations for this group of students. Thus, it is unclear how teachers of students with gifts and talents in visual arts should assess their students' performance or design art experiences that will meet their needs.

NAGB is not alone in the failure to address the needs of students with gifts and talents. In 2014, the National Coalition for Core Arts Standards (NCCAS) released their revised framework for arts education, the National Core Arts Standards. Changes were made to the framework to better align the standards with the needs of society and advancements in the art field (Rawlings, 2013). This can be seen through the four components, Creating, Presenting, Responding, and Connecting, in which the students not only have to create the works, but also have to present and use their works to communicate their thoughts. These changes allow the students to engage in art in a real-world situation. In addition, the NCCAS standards included elements of 21st century skills, such as critical thinking, problem solving, and communication, making it more relevant to the students and preparing them for their future endeavors (Patton & Buffington, 2016).

These changes in the NCCAS standards seem to indicate a shift in the field of art education, in which researchers and teachers are making attempts to increase the relevance of art education and incorporating more authentic experiences for the students. However, like the NAGB standards, there is little guidance given to teachers working with students with gifts and talents in visual arts. Furthermore, with the NCCAS standards, only at Grade 12 descriptions for three different achievement level are provided. This may make it difficult for teachers who are working with younger gifted art children to design appropriate challenges to develop their potential.

Specialized arts schools in the United States. Different countries have different ways of serving their students with gifts and talents in art. In the US, gifted services for visual arts students vary from state to state. Not all states recognize art giftedness and provide services to identified students even though it is recognized at the federal level. In the 2014-2015 State of States report (NAGC & CSDPG, 2015), only 21 states of the 37 states that provided responses included performing/visual arts in the state definitions. Furthermore, only 11 of these states required services for students with gifts and talents in art. The 11 states are Colorado, Idaho, Iowa, Kentucky, Louisiana, Maine, Nevada, Rhode Island, South Carolina, Wisconsin, and Wyoming. An additional 16 states (Alabama, Arizona, California, Delaware, Florida, Georgia, Hawaii, Indiana, Maryland, Minnesota, Mississippi, Missouri, Oklahoma, Tennessee, Texas, and Virginia) provided services for students with gifts and talents in visual arts without mandates. Additionally, only four states have mandated full funding for gifted services, of which only Iowa required service for students with gifts and talents in visual arts. Thus, although 27 states reported providing services for these students, three of the states (Arizona, Delaware, and Rhode Island) do not provide funding for the services.

In addition, within the art discipline there are many courses of study and different crafts. Not all art schools are equipped to teach all types of craft and media. However, as mentioned previously, many art schools use drawing tests and portfolio in their selection process. Students with gifts and talents in visual arts are likely to have varied experiences in art and they may be equipped with different combination of skills and knowledge, which may not manifest during the selection process. This is further confounded by the increasing trend for students to work across disciplines and to use multiple techniques in creating their projects, even to push media boundaries. Not all selection processes are able to accommodate students' mode of expression.

Researchers recommended the use of a range of identification methods in which schools can select a broader range of student population with varying talents in the diverse disciplines of art (Clark & Zimmerman, 1987; Haroutounian, 1995). By having multiple pathways in the identification process, schools can design a process that will best identify students suitable for their programs and provide differentiated and appropriate service for participants (Callahan, 2013). However, doing so makes it difficult for the art schools to narrow down the indicators of talents and develop consistency in identification practices (Clark & Zimmerman, 1992).

The Contribution of the Study

In 1972, visual arts giftedness was recognized as an aspect of giftedness that needed to be nurtured and developed (Marland, 1972). However, students with gifts and talents in visual arts have been overlooked in the field of gifted education. Of the 27 states that responded to the question about areas of giftedness they were required to identify students in the 2014-2015 State of States report (NAGC & CSDPG, 2015), 11 states (Colorado, Idaho, Iowa, Kentucky, Louisiana, Maine, Nevada, Rhode Island, South Carolina, Wisconsin, and Wyoming) have mandates to identify and provide services for students with gifts and talents in art. However, only one state, Iowa, mandated full funding for gifted art programs (NAGC & CSDPG, 2015). In addition, a disconnect exists between the advancements made in the field of gifted education and those of gifted art education. As researchers in the field of gifted education developed instruments to improve equity and proportionality in the identification of students with gifts and talents, the identification of students with gifts and talents in visual arts continues to rely on locally developed methods shrouded with issues of validity and reliability.

There is no one “best” method of identifying students with gifts and talents in art, especially in a field as complex as art education. Thus, it is important to consider the various

aspects of visual arts when identifying students with gifts and talents in visual arts. However, this is usually not the case, as history has shown how researchers have the tendency to focus on assessing students' drawing and other art making skills as part of the identification process. Although some researchers acknowledged the importance of aesthetics and attempted to create tests to evaluate this aspect in the students (e.g., Horn & Smith, 1945; Meier & Seashore, 1929; Thorndike, 1916), the tools they developed were limited in their uses.

There is more to art than art making. Components of art such as aesthetics, art history and criticism, as well as art attributes and behaviors need to be considered when identifying students with gifts and talents in visual arts. Although many art schools are using multiple methods when identifying students, the focus continues to be on the students' practical skills. Furthermore, there is limited research on the influence of teachers on these identification practices. This is a gap that needs to be addressed especially when teachers are often the gatekeepers to gifted programs. Teachers are often the designers of the identification process and the evaluators of the students' works in the process of identifying students with gifts and talents in visual arts.

In this study, I examine teachers' perceptions of the key characteristics of students with gifts and talents in visual arts and how their perceptions influence the identification processes they developed. By asking teachers about what they observed about their students, I can understand the characteristics, behaviors, and attributes of students with gifts and talents in art that art teachers focused on, which in turn influence the identification process and the type of students identified. In addition, I can examine the effectiveness of the methods currently used in identifying these students and extend the research on validity and reliability of identification methods used for identifying students with gifts and talents in visual arts.

CHAPTER 3. METHODS

Overview

Through this study, I examined teachers' perceptions of students with gifts and talents in visual arts in terms of art behaviors, art attributes and their teaching beliefs. In addition, I developed an instrument to measure these constructs. In the field of gifted art education, little research exists on the role of teachers in the identification process. Thus, there is no validated survey instrument that I can use for my study. I designed a survey instrument that helped me understand art attributes and behaviors teachers observe among their students with gifts and talents in art. I also examined how teachers' personal beliefs about art and their use of the application process influence their perceptions of art talent. With the instrument design, I conducted an exploratory factor analysis to investigate construct validity evidence. The two constructs were Art Attributes (AA) and Art Behaviors (AB). Based on existing literature about the identification process, these two constructs are likely to influence teachers' perception about art giftedness and how they identify students with gifts and talents in art.

Considering that the focus of the study was to design an instrument to understand art teachers' perceptions about art giftedness, I selected a group of participants who have similar experiences in the process of using the inclusion criteria:

- (a) they must be art teachers in an arts school or a public school that serves middle or high school grade levels; and/or
- (b) they must be teaching visual arts or fine arts.

This is in line with the grounded theory approach in which the purposeful selection of participants helps to inform the researcher about the phenomena of interest (Creswell, 2013). In

this chapter, I describe the procedures for the study, including designing the instrument, data collection procedures, and methods for data analysis.

Research Questions

RQ 1. What are the specifics, such as behavior, attributes, skills, knowledge, or temperament, that teachers are looking for in students with gifts and talents in visual arts?

RQ 2. What artistic attributes and behaviors do teachers observe about students with gifts and talents in art during their interaction with these students?

RQ 3. To what extent can the constructs (Art Behaviors and Art Attributes) be measured by the Perceptions about Art Giftedness survey?

RQ 4. Does the Perceptions about Art Giftedness survey generate valid and reliable data concerning teachers' perception of students with gifts and talents in the area of visual arts?

Design of the Study

Existing identification methods for students with gifts and talents in visual arts focus mainly on the drawing abilities of the students (e.g., drawing tests, portfolios). Little information was available in the field about the attributes and behaviors of these students. Similarly, limited research existed on the influences of teachers in the art identification process. Based on these gaps in the field of gifted art education, I conducted a mixed methods study to examine these issues and developed an instrument that examined teachers' perceptions about art giftedness. This instrument is comprised of two constructs: Art Attributes and Art Behaviors. Art Attributes referred to self-beliefs and motivations that the teachers observed of their students with gifts and talents in art. Art Behaviors referred to the art making skills and other work ethics of the students

with gifts and talents in art that the teachers can observe in their classrooms. Art attributes and art behaviors are constructs that can help to provide information about how art teachers perceive their gifted students by their interaction in the classrooms. These constructs were evident in and derived from other talent development models (Gagné, 2010; Renzulli, 1988).

Another element in the instrument is Teacher Beliefs. Teacher Beliefs is an important factor in gifted education. The beliefs teachers have about art giftedness will influence the type of students with gifts and talents in art they identify. For example, an art teacher who believes a gifted art student should be highly skilled in drawing is unlikely to select an art student who is mediocre in drawing but highly creative.

Instrument Development

Initially, after reviewing the literature on gifted art education and the development of identification methods of students with gifts and talents in art, I developed an instrument with five constructs: Art Attributes, Art Behaviors, Teacher Beliefs, Selection Processes, and Teacher's Self-Perception. The initial survey had 35 items. This survey was sent to two experts in the field of gifted art education to evaluate the content and constructs. Both experts provided extensive feedback and suggestions to improve the survey. In addition, I also sought the feedback from other researchers, Dr. Sabol and Dr. Olenchak, who are experts in the field of arts education on survey design. Based on the feedback provided, I removed three of the constructs, Teacher Belief, Selection Processes, and Teacher's Self-Perception. Selection Processes was removed because the items focused mainly on the familiarity the art teachers have with the selection processes adopted by their schools and how these processes were used. Hence, these items were more suited as demographic items, which would allow me to examine differences in teachers' responses based on their involvement with selecting art students. Teacher Beliefs was

not considered a construct for the instrument because it focused teachers' personal beliefs about art giftedness and not their perceptions about art giftedness in their students. In addition, comments from other researchers highlighted the possible interaction between Teacher Beliefs and Teacher's Self-Perception. Hence, the experts on gifted education recommended reexamining the items and to move some of the items to Teacher Beliefs. These changes helped to make the survey more parsimonious. The revised version of the survey had 23 items grouped under the two constructs, Art Attributes, Art Behaviors (see Figure 2). For all items, teachers had the option to include comments or additional information about their choice. These responses helped to provide insights into the quantitative aspect of the survey.

<u>Art Behaviors</u>	<u>Art Attitudes</u>
AB1. Shows strong technical artistic skills at the beginning	AA1. Self-motivated
AB2. Masters technical artistic skills quickly	AA2. Confident when expressing ideas
AB3. Works hard to improve technical artistic skills	AA3. Intellectual curiosity
AB4. Shows flexibility when working with different media	AA4. High self-expectations
AB5. Demonstrates risk-taking behaviors in work	AA5. Strong interests in art
AB6. Works with focused concentration	AA6. Highly disciplined and driven when working
AB7. Shows persistent engagement in work	AA7. Strong sense of ownership when creating artwork
AB8. Communicates artistic intention creatively	AA8. Sensitivity to artistic elements and principles
AB9. Works alone with minimal direction	AA9. Willingness to put in extra effort
AB10. Shows responsive to ideas and suggestions	AA10. High tolerance for ambiguity
AB11. Makes connections between classroom learning and personal experiences	
AB12. Creates works that show originality of thinking	
AB13. Demonstrates fluency in exploration of ideas	

Figure 2. The original two constructs, Art Behaviors and Art Attitudes, with the 23 items

For the two constructs, Art Attributes and Art Behaviors, the survey instructions directed teachers to consider students in their program who were gifted in art and select how often they observed these attributes and behavior among these students. A six-point response scale was used for these constructs: *Never, Almost Never, Sometimes, Fairly Often, Very Often, Always*. The first construct, Art Attributes, had 10 items. These items focused on students' motivation, self-efficacy, and creativity. The second construct, Art Behaviors, had 13 items focusing on students' technical abilities, work ethics, and creative behavior.

The next section, Teacher Beliefs, required the teacher to rank in order the responses for each item using the number 1 through 5, with 1 indicating least importance and 5 indicating most importance. There were three items in this section, which examined teachers' personal beliefs about art giftedness (see Figure 3). By asking the teachers to rank in order the responses in each item, I was able to analyze what aspects of visual arts giftedness teachers value the most and compare that with their responses in Art Attitudes and Art Behaviors.

Teachers' Beliefs about Students' Art Behaviors

- Strong Drawing Skills
- Strong critical thinking skills
- Strong creative thinking skills
- Strong critique skills
- Strong communication skills

Teachers' Beliefs about Students' Art Attitudes

- Showing task commitment
- Showing self-directedness
- Showing self-confidence
- Showing interest
- Showing willingness to learn

Teachers' Belief about Students' Art-making Skills

- Being sensitive to artistic details when creating artwork
- Being expressive when creating artwork
- Being flexible when creating artwork
- Being experimental when creating artwork
- Being reflective when creating artwork

Figure 3. Three parts of Teachers' Beliefs and their items

There was a comment section for each construct. The comment section provided an opportunity for teachers to elaborate on their answers and raise any concerns. These responses would help with the development of the instrument.

Participants

The participants were art teachers in the United States who were currently teaching visual arts or fine arts at the middle or high school level. Due to the focus of the study and the specificity of the survey, it was necessary to be selective in recruiting the participants. Based on the results from the State of the States report, I contacted state associations of art teachers from the 27 states that provided services for gifted art students and sought their help in sending out the survey to the art teachers registered with the association. In addition, some of these state association for art teachers also had social media pages, which they used to help me recruit participants for my study. I also contacted school district coordinators who I have worked to help disseminate information about the study. To encourage teachers to respond to the survey, I provided gift cards to a predetermined number of responders. A weblink address explaining the nature of the study the survey was sent to the coordinators with the associations. More than 270 teachers began the survey; however, only 150 art teachers from middle and high schools completed the survey.

Data Collection

I collected two types of data. The primary data for the study were the survey data completed by the teachers. At the end of the survey, teachers who were willing to be interviewed checked an item that indicated positive response to interview. I emailed the 120 participants who indicated willingness to be interviewed. However, only 11 participants responded to the email. I

contacted these teachers to arrange a date and time for the interviews. The interviews were conducted over Skype or the phone.

Survey. The survey was created using Qualtrics (see Appendix A for a complete copy of the survey). The weblink address was sent out to art teachers through the various states' associations for art educators. The survey also asked for the participants' basic demographic information including gender, ethnicity, and years of teaching. The participants also indicated the art media they worked with and the grade level(s) they taught. Clear operational definitions of the constructs were stated in the survey. This helped the teachers to frame their interpretation of the constructs, reducing confusion and multiple understanding among themselves. Information about the study participants can be found in Table 1.

Table 1

Demographic Characteristics of Participants (n = 150)

		<i>n</i>	%
Gender	Male	36	24.00
	Female	105	70.00
	Prefer not to answer	9	6.00
Ethnicity	American Indian Alaska Native	2	1.33
	Asian or Pacific Islander	1	0.67
	Black	2	1.33
	Latinx	6	4.00
	Two or more	6	4.00
	White	121	80.67
	Prefer not to answer	11	7.33
	Not Listed	1	0.67
Teaching Experience (Years)	1 - 3 years	11	7.33
	4 - 6 years	16	10.67
	7 - 9 years	12	8.00
	10 - 12 years	17	11.33
	13 - 15 years	23	15.33
	16 years or more	68	45.33
	Prefer not to answer	3	2.00
Education (Completed)	Bachelors	55	36.67
	Masters	83	55.33
	Doctoral	6	4.00
	Professional Degree	2	1.33
	Educational Specialist	1	0.67
	Prefer not to answer	3	2.00
Position in School	Administrator	4	2.67
	Classroom Teacher	114	76.00
	Instructional Specialist	23	15.33
	Not listed	6	4.00
	Prefer not to answer	3	2.00

Interview. In addition to the survey, 120 participants were asked if they would be willing to be contacted for an interview. Only 11 participants responded. These participants were provided with an information sheet informing them of their rights and more details about the study. I developed a semi-structured interview protocol (see Appendix B) to guide the interview

process. The questions covered topics such as the participants' teaching beliefs, their perceptions of artistic giftedness, and purpose behind the selection process. These conversations with the teachers were important in understanding what they considered characteristics of high ability art talent, as well as helping me to gain a deeper understanding of the teachers' survey responses. I also informed the participants to set aside approximately one hour for the interview.

I conducted the 11 interviews over Skype or via phone call based on the participants' availability. The interviewees had a wide range of teaching experiences among them, ranging from four to six years to more than 16 years in education. They also reported teaching different art medium, with painting and drawing being the most common. The interviewees were a mixture of gender, ethnicity, highest degree earned, and roles within their schools (see Table 2). The duration of the interviews ranged from 30 to 80 minutes. I provided participants with a transcript of their interview for verification, and I asked them to provide additional information if needed. Based on the participants' feedback, I made minor edits to the transcripts.

Table 2

Interviewees' demographic information and their Roles

Participant (Survey Number)	Gender	Ethnicity	Highest Degree Earned	Years in Education	Role
004	Female	White	Masters	10 - 12 years	GT Art Teacher
016	Male	Hispanic, White	Masters	16+ years	Art Teacher
020	Female	White	Doctoral	16+ years	Visual Art Educator/ High Ability Coordinator
030	Female	Not Listed	Masters	16+ years	Classroom Teacher
037	Male	White	Masters	16+ years	Classroom Teacher
046	Female	White	Bachelors	4 - 6 years	Classroom Teacher
048	Female	White	Masters	10 - 12 years	Classroom Teacher
057	Female	White	Bachelors	16+ years	Classroom Teacher
061	Female	White	Bachelors	16+ years	Visual Arts Teacher
062	Female	White	Masters	16+ years	Visual Art Educator (Retired)
092	Male	White	Masters	16+ years	Classroom Teacher

Exploratory Factor Analysis (EFA)

EFA is a method of data reduction that examines the presence of factors responsible for the shared variance in a set of items (Brown, 2014). By conducting an EFA I could ensure I was defining the constructs correctly and had the essential number of items needed to explain the constructs. In addition, as there was no prior restriction on the pattern of relationship between the items and the constructs, I ensured that the items designed were loading appropriately on the hypothesized construct. Without a predestinated structure, I observed how each item could be related to each construct. This allowed me to make modifications to the instrument as needed.

Using SPSS (version 25), an initial Principal Axis Factoring (PAF) was conducted to examine the number of possible factors. Based on the Kaiser-Meyer-Olkin Measure of Sampling Adequacy, Kaiser value of 0.909, a sample size of 150 participants was adequate to examine the factor structure for the instrument (see Table 3). Furthermore, the results from Bartlett's test of

sphericity were also significant, which further supported the need for a factor analysis (Kaiser, 1974; Tobias, & Carlson, 1969).

Table 3

Results from Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.909
Bartlett's Test of Sphericity Approx. Chi-Square	2026.269
df	253
Sig.	<0.001

Qualitative Analysis

I transcribed three of the interviews verbatim using Express-Scribe (version 6.00). During the transcribing process, I took notes on my initial ideas, which were used to develop the big ideas for open coding. It was important to examine factors such as events, actions, and interactions during the process of open coding (Corbin & Strauss, 2008). Some of the big ideas developed at this stage focused on characteristics and behaviors of art students whom teachers considered to be gifted in visual arts, as well as their descriptions of services they provided for their gifted art students. The remaining eight interviews were sent to a transcribing service. These transcriptions were checked through individually and transcription errors such as use of education terminology and abbreviations were corrected. The completed transcripts were uploaded into NVivo (Pro version 11.3.2.779) for analysis.

Validity of the study

I adopted the postpositive approach in which multiple perspectives helped to inform my study (Creswell, 2013). This is seen with the design of this study where an EFA is conducted to

validate the constructs of Art Attributes and Art Behaviors. These constructs were based on existing literature and prior research in the field of art education and as described in talent development models. This was in line with the epistemological beliefs that knowledge was built through research (Creswell, 2013). Additionally, by including a qualitative dimension to data collected through comments and interviews, I was able to listen to the participants who informed me about their observations of the attributes and behaviors of students with gifts and talents in art. By conducting mixed-methods research, I was able to have a better understanding of the teachers' perceptions about art giftedness.

Triangulation of data. I used multiple sources of information to formulate my findings and discussion. First, the participants in the study were art teachers who were familiar with the different forms of art attributes and behaviors even if they might not be working with identified students with gifts and talents in art. Second, I conducted an EFA to ensure that the construct validity of the items through the responses collected and the items were loading correctly. Third, I collected qualitative data through the survey about art teachers' perceptions on the attributes and behaviors of students with gifts and talents in art. Fourth, I conducted interviews with 11 teachers, which provided another source of data that helped to inform the study. Last, I conducted a member check with the interviewees to ensure accuracy of the interpretations.

Sensitivity and Credibility. In qualitative research, the researcher is instrumental to the study. I taught art in Singapore for 11 years and worked on designing art programs for students with gifts and talents in art. As an art teacher, I am familiar with the set of skills and attributes that the students need to succeed in an art classroom. Strauss and Corbin (1990) highlighted the importance of field experience to a study. I was also an active member of the art teachers' community through my involvement with the Singapore-Cambridge General Certificate of

Education (Ordinary Level, GCE O-level) art exams and art teachers' network. Although I have not taught art within the US, I understand art as a discipline. The professional knowledge and insights I had accumulated during 11 years of teaching have helped shape my contextual understanding of the data and informed my qualitative data analysis.

In addition, I am also familiar with the terms and vocabulary used in art education, which helps create a level of shared knowledge and trust between the participants in the study and me. This trust was important as it determines how open the participants would be with their answers during the interviews (Creswell, 2013). As a researcher interested in the subject of identification of students with gifts and talents in art, I am also familiar with the various selection processes used in the schools. Having this knowledge helped when I asked the interviewees questions about the identification processes used in their schools and to clarify any misconceptions during the interviews.

CHAPTER 4. RESULTS

Qualitative Analysis

The initial coding scheme used was based on a process developed through a similar study with a different group of participants (Tay, 2019). However, some of the codes were modified based on the interviewees' responses. An example of the initial coding scheme was the grouping of six open codes, "taking ownership of their work; self-driven; self-directed; work independently; driven to see their ideas through; work on their own" to form an axial code "self-directedness and independence," which was highlighted by 11 interviewees with 73 references. Table 4 contained other examples of open and axial codes.

Table 4

Examples of Open Coding, Axial Coding, and Selective Coding used

Examples of Open Codes	Axial Codes	Selective Codes
Enjoy art; interest in the subject; choose to spend time in art; wanting to do art all the time; desire to create	Interest in art	Attitudes and Behaviors aligned with Art
Creative; open to ideas; coming up with their own work; problem solving; going beyond the assignment; personal interpretation	Creativity	
Experimentation; risk-taking; making mistakes and carry on; trying new things; creating art in different ways	Experimenting and Risk-taking	
Taking ownership of their work; self-driven; self-directed; work independently; driven to see their ideas through; work on their own	Self-directedness and independence	Attitudes and Behaviors aligned with Giftedness
Dedication to personal practice; seek improvement; willingness to work; working and reworking; keep trying; perseverance	Willingness to put in extra effort/ Task Commitment	

(continued)

Classroom observation; drawing tests; students initiated; formal/ informal process; written/ oral responses	Identification practices	Participants' use of the selection process and the limitations.
Teachers as only decision maker; creator of selection process; observer	Gatekeeper	
Class attendance; class interactions; attention to work; personal expression; comparison with peers	Looking beyond products	
Change in interest; level of commitment; school structure; other arts options; academic choices; life choices	Distractions from doing art	

Using this initial coding scheme, I coded one randomly selected interview transcript. A colleague who had training in qualitative research helped to test the coding scheme using the same interview transcript. After the first coding process, my colleague and I met to discuss the clarity and utility of the codes and the need to consolidate some of the codes with similar concepts. A second open coding scheme was developed from the discussion. We used the second coding scheme on another two randomly selected transcripts. After the coding process, we met and discussed any differences between our coding. All differences and issues were discussed until an agreement was reached. The final inter-rater reliability between us was 82.06%.

Three major themes were developed from the coding process, attitudes and behaviors aligned with Art, attitudes and behaviors aligned with giftedness, and the participants' use of the selection process and the limitations. For the first theme, attitudes and behaviors aligned with Art, the interviewees observed that students who they considered to be gifted and talented in the art showed interest in the subject and exhibited creative behaviors such as being open to ideas and having a personal voice in their works. In addition, these students also showed high tolerance towards risk-taking and experimentation during the artmaking process. The second theme focused on attitudes and behaviors, such as the students' ability to work independently

and willingness to persevere in their work that the interviewees observed. The attitudes and behaviors highlighted in this theme were similar to characteristics of students with gifts and talents listed by other researchers (e.g., Davis, Rimm, & Siegle, 2011; Gagné, 2010; Renzulli, 1990). The last theme focused on the interviewees' comments about the selection process or how they identified students whom they considered to be gifted. It is important to note that only two of the teachers conducted specialized classes for students who were identified as gifted in visual arts. Although the remaining nine teachers did not have specialized art programs for gifted art students, they still identified students with gifts and talents in art and provided differentiated assignments and projects for these students. However, the interviewees used a variety of criteria for the selection process and some of the selection criteria had limitations. More information about the themes and their properties as well as the number of participants and references can be found in Table 5.

Table 5

Themes and properties from the data with number of participants and references made for each axial code

Thematic findings	Corresponding research question (RQ)	Properties	Axial codes	Number of participants supporting the axial code	Number of references for the axial code
Theme I: Attitudes and Behaviors aligned with Art	RQ 1 and RQ2	Participants' perception and observations of attitudes and behaviors that are characteristics specific to gifted art students.	Interest in art	10	55
			Creativity	11	35
			Experimenting and Risk-taking	10	22

(continued)

Theme II: Attitudes and Behaviors aligned with Giftedness	RQ 1 and RQ2	Participants' perception and observations of attitudes and behaviors that are in line conventional giftedness	Self- directedness and independence	11	73
			Willingness to put in extra effort/ Task Commitment	11	32
heme III: Limitations of the Selection Process	RQ 3	Participants' use of the selection process and the limitations.	Identification practices	11	61
			Gatekeeper	10	37
			Looking beyond products	10	24
			Distractions from doing art	10	22

Theme I: Attitudes and Behaviors aligned with Art

Interest in art. At the upper grade levels, most of the students who took art chose the subject, but some students were assigned to art based on the school education structure or recommendation by school counselors. Students from the latter category often did not have much interest in the subject, leading to a range in students' interest in art within the classroom. Ten participants commented during the interviews that high-level interest in the subject was a key characteristic among gifted students and something they observed in their students. An example was a participant's comment, "they get to choose whether or not they want to be in the art room. If they do, that already is a step towards showing me they're interested in art" (046_January 4, 2019). Some participants also highlighted the importance of students' interest in art through comments like "high interest for me is the biggest factor" (020_December 6, 2018) and "That's what I love to see is if they're passionate about creating and if they like to experiment and they like to look at art" (057_January 2, 2019).

Other evidences provided by the participants range from student-initiated identification procedures, "they choose to. If they are interested, they do" (004_January 16, 2019) to students

working in the art classrooms during their lunch hours and after schools. These could be seen through comments such as, “if a kid if really into clay then they tend to be the one showed up after school to work on their project” (016_December 4, 2018), and “I have the very talented student sometimes who can't seem to get an art class, and so I have an art club after school which gives them an outlet. They can come for that” (057_January 2, 2019).

Creativity. Along with attitudes and behaviors that are unique to the art practice, participants also identified characteristics among their students who are gifted in visual arts that align with general conception of giftedness. One example was the characteristics of being creative, which was in line with Renzulli’s (1988) Three-Ring Conception of Giftedness (TRCG). All participants highlighted the importance of creativity when identifying gifted art students and creativity being a factor differentiating students who are gifted in art from their peers. Examples of comments from the interviews include, “going with regular projects that I do, I look at how much interest, how much time, how much care, how much inspiration that they put into a particular project” (037_December 28, 2018) and when examining submitted portfolios, another participant looked for “extensive evidence of imagination or personal interpretation showing originality and inventiveness” (062_December 5, 2018). These comments highlighted the participants’ emphasis on creativity when identifying gifted art students. However, the focus on creativity was not limited to the identification process. Participants also observed creative behaviors among their gifted art students. As a participant explained:

When they're talented, you see that creativity in there. You see that in other students where you see this creativity on how to correlate, how to actually make it work within your artwork. I have students that are creative, they want to create something, but they

don't know how to actually take it beyond just that one creative part. The talented ones are ones that can take that creativity but bring it all together (046_January 4, 2019).

Similar observations were shared by other participants, “That's what I love to see is if they're passionate about creating and if they like to experiment and they like to look at art and get ideas from a lot of different places” (057_January 2, 2019) and “she just always has a unique personal voice, when she is creating her artwork, so that's where I see the giftedness as opposed to just the skill level” (061_January 10, 2019).

However, not all participants used positive examples to explain creative behaviors among their students. Negative examples were also used by participants to explain what they do not consider to be creative behaviors. One participant commented that some students may be good at replicating an image but “they have no imagination or creativity beyond that” (061_January 10, 2019). Another participant expanded on the idea by differentiating the students, “they're creative only for a short burst of energy and then they're bored, so they've lost that sense of how to keep being creative. Again, the ones that are talented, push onward and keep it going” (046_January 4, 2019).

Experimenting and Risk-taking. Another important unique characteristic observed by the participants among their gifted art students was the willingness to experiment and take risks. This positive attitude towards experimenting and risk-taking was highlighted by 10 participants as attitudes and behaviors that differentiate the gifted students from their peers. An example of such attitudes was highlighted by a participant, “students who take that skills further where you see experimentation” (016_December 4, 2018). However, it was important to note that even though these participants considered students who were willing explore beyond the boundaries of the assignments as being gifted in art, they also equally emphasized on value of perseverance

when experimenting. This could be seen through comments such as “they keep trying new things. They're not afraid. They have a lot of courageous thought” (030_December 31, 2018), “they make mistakes, it’s okay because lots and lots of people have failed projects” (020_December 6, 2018), and “I have kids that take the risk, they accept the challenge, ‘Hey, I might fail but I'm going to try this,’ and if it doesn't work, they don’t quit” (048_December 31, 2018). From the participant's viewpoint students were considered gifted in art if they were willing to experiment and take risks, along with learning from mistakes and persevering through the process.

Theme II: Attitudes and Behaviors aligned with Giftedness

Self-directedness and independence. All 11 interviewees highlighted the sense of self-directedness as an important characteristic they observed in their gifted art students. There were 73 references made about this concept—the largest number of references for a code compared to the other codes (see Table 5). This axial code captured the sense of self-directedness and independence through the open codes such taking ownership of their work, being self-directed, able to work independently, and driven to see their ideas through (see Table 4). An example was a comment from a participant, “Some are just driven to see their ideas through, and it doesn’t matter what you do, they are going to do whatever it is that they set out to do” (004_January 16, 2019). Similar perceptions were also expressed by other participants, such as “they have a streak of inspiration that takes them, independently, into things where you didn't direct them, they're going there” (037_December 28, 2018) and “they just want to be in their own space and doing their own thing” (061_January 10, 2019). However, not all participants used the words self-directed or independence when describing students’ behaviors and attitudes. These concepts were implied through their descriptions of the students’ behavior. Some of the examples included

participants' descriptions of their art classrooms, "many of them will come in after school or during that lunch hour or whatever and they will go get a canvas and do whatever they want to" (057_January 2, 2019) and "really I just, I provide the environment and they pretty much do it themselves" (016_December 4, 2018).

In addition, some participants also described behaviors and attitudes that were not representative of students who are gifted in visual arts. Examples includes, "not somebody that you have to tell them what to do every now and then" (020_December 6, 2018), "you can't really work with them because they can't direct themselves because of their immaturity" (037_December 28, 2018), and "whereas the less gifted student, is going to be goofing off half the time and more interested in the social aspect of being in a classroom kind of a studio setting" (092_December 28, 2018). The participants used these examples to contrast against behaviors and attitudes that they observed from students who are gifted in visual arts in their art classrooms.

Willingness to put in extra effort/ Task Commitment. Another attribute shared by the participants was the willingness to put in effort that they observed among the students who are gifted in art. This attribute was similar to task commitment in TRCG (Renzulli, 1988) and persisting in *Habits of Mind* (Costa & Kallick, 2000). All participants commented on the sense of commitment the students have to their art practice, as well as the constant challenging of their own boundaries when pursuing art. A participant commented, "they have some sort of dedication to a personal practice that going to feel definitely GATE" (016_December 4, 2018). Similar observations were made by other participants, "trying something if it's not working, having the self-confidence to go on and continue instead of just giving up" (030_December 31, 2018), "the ones that are talented, push onward and keep it going" (046_January 4, 2019), and "the ones that

are truly artistic will do the same type of assignment multiple times, making different color selections, using form and shape slightly differently” (092_December 28, 2018).

Although all participants had highlighted the willingness to put in effort as a behavior that they observed among students who were gifted in art, only six participants explained how they looked for this attribute during the identification process. In addition, these participants were able to include this attribute because their identification process allowed them to observe their students’ behaviors during the process of artmaking. When asked about the identification process for gifted art students, Participant 030 commented:

Some of it when I look at their grades for the semester or for the nine weeks, there's also a grade for their, not necessarily participation, but the completeness of their projects, their attitude. I call it their work ethic. I really look at that because that helped me, not necessarily who is just the gifted students, but who are the students you're willing to try (030_December 31, 2018).

Another participant also shared similar experience, “by going with regular projects that I do, I look at how much interest, how much time, how much care, how much inspiration that they put into a particular project” (037_December 28, 2018).

Theme III: Limitations of the Selection Process

Only four participants in this study had a formal identification process which they used to identify students with gifts and talents in the art. However, all participants worked with students whom they considered to be gifted, even though only four participants actually provided formal classes or modules for these students. Of the four participants who had formal identification processes, four used drawing as a component of the selection process, one included a creativity test, and two required portfolios. The remaining seven who did not have a formal selection

process used regular art classroom activities and project to identify students with gifts and talents in art. Thus, regardless of the methods in identifying gifted art students, these participants acted as gatekeepers to services that were provided for the gifted art students. Furthermore, it is interesting to note that regardless of the identification methods, the participants were not only looking at the artistic product of the students, but they also considered characteristics and attributes that had little relation to the students' artworks.

Identification practices. All participants shared their process of identifying students with gifts and talents in art. However, only four participants had formal identification processes and these participants are from states (Ohio and Maine) that mandated the identification of gifted art students. The remaining participants had informal identification processes, which consisted of observing the students during their regular art lessons and art projects. However, it was important to note that not all students participate in the formal identification process. According to the participants, students could choose if they wanted to undergo the identification process. In addition, parents and teachers could also recommend students to participate in the identification process. The initiation of the identification process could be seen through comments such as "they choose to. If they are interested, they do. If they don't want to do it they don't" (004_January 16, 2019) and "we can start the process in the school because the parent has asked us to do it" (061_January 10, 2019).

Another interesting finding about the identification process is the emphasis on the drawing component of art making. It was clear what with the formal identification process drawing was often a major component. However, in the informal identification process, the participants also referred to the students' preference for drawing as a factor in the identification process. Some of the participants' comments that highlighted this included, "if I had someone

who always signs up for the drawing part of it, I know that I want them in my classes later on” (030_December 31, 2018) and “students will come and show me their sketchbook and I can tell from looking if they got talent to draw either from their mind or from the observation. Those students I love to have too” (057_January 2, 2019). Furthermore, only three participants mentioned the use of a responding component when identifying students, which could be in the form of written artist statements ($n=2$) or verbal interaction during art lessons ($n=1$). In contrast, all participants shared their use of art history and criticism when working with gifted art students.

Gatekeeper. Teachers are often seen as gatekeepers between gifted students and their access to gifted services. This was especially true for the field of art education. With little to no mandates for identification and service provision for gifted art students, art teachers often had to identify and serve these students on their own. This could be seen from the interviews where 10 participants shared their experiences about the identification process. From these participants’ interviews, six of them pointed out that they are the only decision maker when identifying gifted art students, and another four worked with a small group of other art teachers. When the participants were asked about the identification process in their schools, their replies were, “I am the only one who formally identify the students” (016_December 4, 2018), “as the only person, there is not much of a process, because you know, my opinion but they need to have a good grade in art” (020_December 6, 2018), and “I keep track of what they have been doing for the last two years of sixth grade and seventh grade. That's how I made my determination of who's going to be in the advanced art class” (030_December 31, 2018).

Looking beyond products. As revealed in the findings from earlier themes, in which the focus was on students’ attitudes and behaviors, it was no surprise that the participants are looking beyond artworks when identifying students with gifts and talents in art. A participant explained

how she used the identification process to assess the student's creativity and sensitivity, "we don't look for perfection or mastery of the medium at all. We are looking at how innovative the kid can be, how sensitive they are to what they are doing or what they are looking at" (004_January 16, 2019). Similarly, another participant also shared how she looked at the student's approach to artmaking, "the quality I look for the most is not necessary their attention to details but their approach to techniques" (016_December 4, 2018). However, there were also participants who considered other factors such as "attendance" ($n=2$) and "their ability to take instruction" ($n=2$). Only one participant mentioned students' skills, but she referenced it along with the students' developmental age, "what catches my eye initially is a skill level that's beyond their developmental age" (061_January 10, 2019). From these evidences, it was easy to see how the participants may be looking at the students' artwork, they are selecting students based on other factors.

Distractions from doing art. Another interesting finding from the interviews was the concern the participants expressed over distractions that prevented the students from pursuing art at a higher level. The distractions consisted of music-related activities ($n=6$), academic-related reasons ($n=6$), life-related factors ($n=4$), systemic issues ($n=3$), and sports-related activities ($n=1$). Examples of comments from 10 participants included, "of course, there's competing electives. There's one where there's music and similar, always" (092_December 28, 2018), "they could not take Art 2 because they're involved in Chemistry, Math, band and something else" (062_December 5, 2018), "a lot of the activity I did was for the students who had some abilities, but they had some bad friends and some discipline trouble" (048_December 31, 2018), and "you see ones that are talented but, again, life and wanting to make money and just things in general got in the way" (046_January 4, 2019). Although the distractions the participants observed

among their students were different, these distractions became concerns when the participants when they identified and served students with gifts and talents in arts.

Exploratory Factor Analysis: Evidence for Content Validation

For the first EFA, I used principal axis factoring with oblique rotation and an eigenvalue of one, Kaiser normalization, and all items. There is no restriction on the factor loading as I am exploring the interaction between and among the items and possible factors for the instrument. In this analysis, four factors were identified. However, only two out of the four factors had eigenvalues greater than one. Furthermore, the scree plot indicated only two possible factors (see Figure 4).

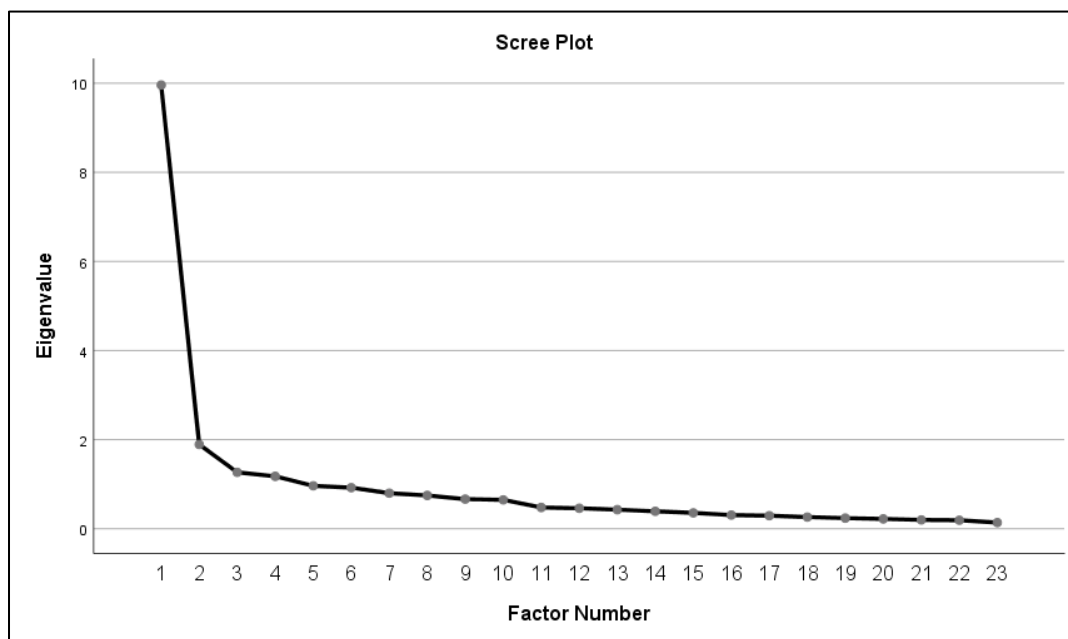


Figure 4. Scree Plot showing the number of factors that should be retained in the exploratory factor analysis

I decided to focus on a two-factor model and examined the factor loadings based on a two-factor model. The factor intercorrelation matrix (see Table 6) for the two retained factors is $-.636$.

Table 6

Factor Intercorrelation Matrix with remaining items

Factor	1	2
1	1.000	
2	-.636	1.000

Note: Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.

The initial model explained 47.47% of the variance, Factor 1 contributing to 41.13% and Factor 2 contributed 6.34%. Examining the factor matrix, there were 15 items that cross loaded on the two factors (see Table 7). However, based on the factor loadings, this was not an issue as 11 of these items suffered from low communalities on one of the factors (Brown, 2014) and only four items loaded evenly on both factors. These items, AB1 (*Shows strong technical artistic skills at the beginning*), AB2 (*Masters technical artistic skills quickly*), AA7 (*Strong sense of ownership when creating artwork*), and AA8 (*Sensitivity to artistic elements and principles*), also had issue of low communalities as they had factor loadings of less than $\pm .40$. This meant that these items were not suitable for the model and should be removed or rewritten. With the removal of these four items, the model explains 50.21% of the variance. With 42.56% attributed to Factor 1 and 7.65% to Factor 2, an improvement from the previous model (see Table 8).

Table 7

First Exploratory Factor Analysis Factor Loadings

	Factor		
	1	2	
AB13	0.919		
AB11	0.740		
AA2	0.739	0.123	
AB5	0.716		
AB12	0.716		
AB8	0.587	-0.149	
AA3	0.574		
AB4	0.501		
AB10	0.477	-0.110	
AA10	0.475	-0.190	
AB2	0.395	-0.319	Item removed due to cross-loading and low communalities
AA7	0.357	-0.346	Item removed due to cross-loading and low communalities
AA8	0.323	-0.270	Item removed due to cross-loading and low communalities
AB6	-0.182	-0.943	
AB7	-0.165	-0.931	
AA6		-0.774	
AA9	0.119	-0.672	
AA1	0.174	-0.619	
AA5		-0.608	
AB9	0.107	-0.577	
AB3	0.192	-0.534	
AA4	0.229	-0.446	
AB1	0.215	-0.384	Item removed due to cross-loading and low communalities

Note: Extraction Method: Principal Axis Factoring. Rotation Method: Oblimin with Kaiser Normalization.

Table 8

Comparing Total Variance Explained with Original Instrument (23 items) and Revised Instrument (19 items)

Factor	Extraction Sums of Squared Loadings (23 items)			Extraction Sums of Squared Loadings (19 items)		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.459	41.126	41.126	8.086	42.558	42.558
2	1.458	6.341	47.468	1.453	7.650	50.207

Note: Extraction Method: Principal Axis Factoring.

The next step of the analysis was examining the Cronbach's Alpha for the two factors. When examining the Cronbach's if alpha deleted column, none of the items, if deleted, would lead to an increase in the overall Cronbach value for any of the two factors, which meant that the overall reliability of the data for the factor cannot be improved by deleting an item from any of the factor (see Table 9). Factor 1 had a Cronbach's Alpha of .89 and Factor 2 has a Cronbach's Alpha of .91. Both factors had high Cronbach's Alpha, indicating that they were reliable estimates of the data's internal consistency. In addition, when examining the means and standard deviations of the response percentage, only three items did not utilize the full range of the scale. However, their means and standard deviations were in line with the other items, between 3.47 to 3.99 ($SD = 0.90 - 1.13$) for Creative Giftedness and between 3.95 to 4.43 ($SD = 0.80 - 1.00$) for Conventional Giftedness. Thus, these 19 items were retained, with 10 items loading onto Factor 1 and nine items loading onto Factor 2 (see Appendix C). The 10 items on Factor 1 had factor loadings ranging from .467 to .895 and the factor loadings for items on Factor 2 ranged from -.451 to -.937 (see Table 10).

Table 9

Perceptions about Art Giftedness: Response Percentages and Alpha Reliability Estimates (n=150)

		Response Percentage					Mean	SD	Corrected <i>r</i>	α if Item Deleted	α
		1	2	3	4	5					
Creative Giftedness	AB13	0	11	25	38	26	3.79	0.96	0.781	0.870	0.891
	AB11	2	11	25	38	28	3.73	1.02	0.685	0.876	
	AA2	2	9	28	42	19	3.66	0.95	0.586	0.883	
	AB5	3	16	29	29	22	3.51	1.10	0.693	0.875	
	AB12	0	8	20	37	35	3.99	0.93	0.689	0.876	
	AB8	3	10	27	34	25	3.68	1.06	0.647	0.879	
	AA3	1	6	19	43	31	3.99	0.90	0.583	0.883	
	AB4	1	15	29	33	21	3.57	1.03	0.552	0.885	
	AB10	1	9	23	38	28	3.82	0.99	0.516	0.888	

(continued)

Conventional Giftedness	AA10	5	14	29	31	21	3.47	1.13	0.585	0.884	0.907
	AB6	1	6	15	31	46	4.14	1.00	0.768	0.890	
	AB7	1	7	13	43	35	4.05	0.94	0.772	0.890	
	AA6	1	7	19	39	35	4.01	0.93	0.785	0.889	
	AA9	1	3	15	34	47	4.23	0.88	0.716	0.894	
	AA1	0	3	19	41	37	4.13	0.81	0.715	0.895	
	AA5	1	4	6	30	59	4.43	0.83	0.616	0.901	
	AB9	1	5	17	42	35	4.07	0.88	0.595	0.903	
	AB3	1	6	27	30	37	3.95	0.99	0.607	0.903	
	AA4	1	3	7	33	57	4.42	0.80	0.585	0.903	

Table 10

Final Exploratory Factor Analysis Factor Loadings

Items	<u>Factor</u>	
	1	2
<u>Dispositions towards Creative Giftedness</u>		
AB13. Demonstrates fluency in exploration of ideas	0.895	
AB11. Able to make connections between classroom learning and personal experiences	0.747	
AB5. Demonstrates risk-taking behaviors in work	0.725	
AA2. Confident when expressing ideas	0.720	
AB12. Creates works that show originality of thinking	0.709	
AB8. Communicates artistic intention creatively	0.591	
AA3. Intellectual curiosity	0.571	
AB4. Shows flexibility when working with different media	0.505	
AA10. High tolerance for ambiguity	0.482	
AB10. Responsive to ideas and suggestions	0.467	
<u>Dispositions towards Conventional Giftedness</u>		
AB6. Works with focused concentration		-0.937
AB7. Shows persistent engagement in work		-0.927
AA6. Highly disciplined and driven when working		-0.763
AA9. Willingness to put in extra effort		-0.677
AA1. Self-motivated		-0.612
AA5. Strong interest in art		-0.603
AB9. Able to work alone with minimal direction		-0.565
AB3. Works hard to improve technical artistic skills		-0.525
AA4. High expectations for self		-0.451

Note: Extraction Method: Principal Axis Factoring. Rotation Method: Oblimin with Kaiser Normalization.

Exploratory Factor Analysis: Evidence for Construct Validation

The final instrument consists of two factors, but not all items fall into the same factors that they were originally designed. As such the original descriptors were not able to accurately differentiate between the two factors. After examining the items for each of the factor, I found that factor 1 consisted of seven items that were originally grouped under the *artistic behavior* factor. The items from *artistic attitudes*, AA2 (*Confident when expressing ideas*), AA3 (*Intellectual curiosity*), and AA10 (*High tolerance for ambiguity*) were also loading into this

factor. It was interesting to note that these items from *artistic attitudes* described attitudes that the interview participants had highlighted when differentiating students who were gifted in art from their peers. In addition, these items consisted mainly of attitudes and behaviors that were geared towards creative behaviors in visual arts. This could be seen through the items such as AB13 (*Demonstrates fluency in exploration of ideas*), AB8 (*Communicates artistic intention creatively*), and AB5 (*Demonstrates risk-taking behaviors in work*). This is aligned with the findings from the qualitative analysis. Thus, a descriptor focusing on students' dispositions towards creative giftedness could better describe the artistic attitudes and behaviors demonstrated by students who were gifted in visual arts.

The second factor consisted of five items from *artistic attitudes* and four from *artistic behavior*. These items were also mentioned by participants during their interviews as attitudes and behaviors that they observed in their gifted art students. (see Table 10). However, unlike the items in Factor 1, Factor 2 items consisted of attitudes and behaviors that were traditionally associated with giftedness. This can be seen through items such as AB7 (*Shows persistent engagement in work*), AA9 (*Willingness to put in extra effort*), and AA5 (*Strong interests in art*), which are closely aligned with the element of task commitment in Renzulli's (1988) Three-Ring Conception of Giftedness (TRCG), as well as the practice of persisting in Habits of Mind (Costa & Kallick, 2000) and Studio Thinking (Hetland et al., 2007). In addition, aspects goal management in Gagné's revised DMGT model (2010) could also be seen through items such as, AB9 (*Works alone with minimal direction*), AA6 (*Highly disciplined and driven when working*), and AA4 (*High self-expectations*). As such, a descriptor focusing on students' dispositions towards attitudes and behaviors associated conventional giftedness could better describe Factor 2.

Analysis of Teacher's Belief. Besides conducting EFA on the two factors, I also analyzed the participants' responses to Teacher's Beliefs. In TB1, the participants were asked to rank a set of five skills (drawing, critical thinking, creative thinking, critique, and communication) in order of importance for a student gifted in visual arts. It was interesting to note that 62.67% ($n=94$) ranked strong creative thinking skills as most important. Strong critique skills was ranked by 35.33% ($n=53$) as the least important set of skills. These results were not surprising given the fact that the interviewees had stressed the importance of creativity and creative attitudes, as well as the lack of emphasis on critique skills. Thus, these responses were aligned with the results from the qualitative analysis. Similar results can be seen with TB2, where 38% ($n=57$) of the participants considered showing willingness to learn as the most important attribute in a gifted visual arts student. In comparison, 43.33% ($n=65$) of the participants did not consider self-confidence as an important characteristic in a gifted visual arts student.

Last, when the participants were required to rank specific art skills they considered to be important for students with gifts and talents in visual arts to have, the responses were less distinct. Only 38 out of 150 participants (25.33%) believed that being experimental when creating artwork as an important characteristic in gifted visual arts students. The percentage of participants who chose the remaining options ranged from 13.33% to 22%. This result was in line with previous literature about the limitations of identifying students through art production methods (e.g., Dorn & Sabol, 2006; O' Donoghue, 2011). The lack of clear consensus among the participants regarding the importance of a specific set of art skills illustrated the dilemma faced by all stakeholders when identifying students who are gifted in visual arts. When examining what the participants considered to be the least importance art skills, being sensitive to artistic

details came in first, with 29.33% ($n=44$) of the participants selecting it. The remaining percentage of participants who selected the other sets of art skills ranges from 13.33% to 22.67%. Detailed information about the analysis of Teacher's Beliefs can be seen in Table 11.

Table 11

Analysis of Responses to Teachers' Beliefs

	1		2		3		4		5	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
TB1										
Strong Drawing Skills	38	25.33	22	14.67	46	30.67	27	18.00	17	11.33
Strong critical thinking skills	7	4.67	17	11.33	43	28.67	59	39.33	24	16.00
Strong creative thinking skills	8	5.33	9	6.00	8	5.33	31	20.67	94	62.67
Strong critique skills	53	35.33	60	40.00	16	10.67	11	7.33	10	6.67
Strong communication skills	44	29.33	42	28.00	37	24.67	22	14.67	5	3.33
TB2										
Showing task commitment	31	20.67	29	19.33	44	29.33	24	16.00	22	14.67
Showing self-directedness	20	13.33	43	28.67	36	24.00	37	24.67	14	9.33
Showing self-confidence	65	43.33	32	21.33	26	17.33	11	7.33	16	10.67
Showing interest	21	14.00	30	20.00	24	16.00	34	22.67	41	27.33
Showing willingness to learn	13	8.67	16	10.67	20	13.33	44	29.33	57	38.00
TB3										
Being sensitive to artistic details when creating artwork	44	29.33	21	14.00	30	20.00	25	16.67	30	20.00
Being expressive when creating artwork	20	13.33	31	20.67	28	18.67	38	25.33	33	22.00
Being flexible when creating artwork	29	19.33	35	23.33	42	28.00	24	16.00	20	13.33
Being experimental when creating artwork	23	15.33	30	20.00	6	4.00	33	22.00	38	25.33
Being reflective when creating artwork	34	22.67	33	22.00	24	16.00	30	20.00	29	19.33

CHAPTER 5. DISCUSSION

In the Education of the Gifted and Talented Report (Marland, 1972), visual arts giftedness debuted as part of the definition about giftedness. However, there was limited literature about it and few studies examined the identification of students who were gifted in visual arts. As such, it was important to examine how are students who were gifted in visual arts identified and served in the US. This study consists of two parts. In the first part, I examined art teachers' perceptions about their students with gifts and talents in visual arts, and how they identified and served these students. The qualitative and quantitative components of this study provided evidence that supported and extended the current understanding about visual art giftedness.

Teacher Perceptions: New Insights into Visual Art Giftedness

To start with, art teachers perceived visual art giftedness very differently from the common understanding about giftedness. This could be seen through the characteristics observed among their gifted art students, such as having an interest in art, being able to go beyond the assignment, as well as having disposition towards risk-taking and experimentation. Although some researchers (e.g., Costa & Kallick, 2000; Davis, Rimm, & Siegle, 2011; Eisner, 2002; Hetland et al., 2007; Renzulli, 2002) mentioned aspects of these characteristics in their descriptions about gifted students, there were nuances that differentiate them from the art teachers' descriptions. For example, in the TRCG model, Renzulli (1990) grouped characteristics such as curiosity, originality of thought, and openness to experience as aspects of gifted behaviors under the cluster of creativity. However, the interviewees expanded on that definition by highlighting behaviors such as being able to problem-solve and having personal interpretation

when creating artworks as creative behaviors. As such, the interviewees' comments were aligned with the recommendations by Hoepfner (1984) who had stressed the need to consider students' personal responses and removing structures that could limit students' potential. Additionally, the importance of creative thinking skills was also highlighted by the participants' responses to teacher's beliefs in the survey. Thus, it was not surprising when the results from EFA showed some of the items from the survey which aided in extending the defining creativity were also loading onto Creative Giftedness.

Besides extending on existing understanding about creativity, the interviewees also highlighted attitudes and behaviors, which they highly valued among gifted art students. Being able to take risk, willingness to experiment, and overcoming failures, were some examples provided by the participants. This was aligned with the students' attitudes and behaviors illustrated by Kárpáti (1997). The comments from the interviewees were also supported by the quantitative part of the study. This could be seen with the items describing these behaviors loading onto Creative Giftedness, which reinforced the need to consider them when identifying and serving students who are gifted in visual arts.

Visual Arts Giftedness and Traditional Definitions of Giftedness

Although the interviewees commented on the differences between visual arts giftedness and the common understanding about giftedness, they also talked about some of the similarities. Being self-directed and able to work independently were characteristics observed by all participants about their gifted art students. This was aligned with the current understanding about characteristics of gifted students. Gagné's (2010) DMGT 2.0 model and Renzulli's (1990) TRCG model, both highlighted the motivation and drive of students with gifts and talents in their endeavors. Similarly, Costa and Kallick (2000) illustrated the importance of attitudes such as

persistence and be open to continuous learning in art students. Hetland and her colleagues (2007) also presented similar ideas in their Studio Thinking framework. The interviewees shared examples of students who were able to take the classroom assignments in their own directions, where the role of teachers were facilitators helping these students along their learning process. In addition, Factor 2 from the EFA analysis, Conventional Giftedness, was also aligned with the interviewees' comments. Four of the items loading onto Factor 2 focused on the perception of drive and independence among gifted art students. As such, this helped to strengthen the idea that Conventional Giftedness captures art students' dispositions towards attitudes and behaviors associated traditional definitions of giftedness.

Willingness to put in effort was another characteristic that the interviewees commented on about the students they perceived to be gifted in visual arts. The interviewees shared examples where their students showed perseverance when pursuing an art task, as well as their sense of commitment in developing their crafts. These examples were aligned with attitudes and behaviors of gifted students that were highlighted by many researchers (e.g., Costa & Kallick, 2000; Davis, Rimm, & Siegle, 2011; Eisner, 2002; Gagné, 2010; Hetland et al., 2007; Renzulli, 1990). Furthermore, the participants' responses in Teacher's Beliefs, where more than one-third of the teachers considered willingness to learn as an importance characteristic in gifted students, also provided support for this characteristic. Lastly, four of the items that loaded onto Factor 2 examined the interaction between students' willingness to put in effort and the participants' perception about their visual arts giftedness.

Lack of Consensus Concerning Identification

In contrast to findings that address the students' attitudes and behaviors, it was important to note the lack of definitive preferences among the participants when ranking the importance of

specific sets of art skills. This finding was not unexpected. Since the development of various identification methods to identify gifted visual arts students, researchers had never reached a consensus on what were the art skills that these students should possess. Some of these identification methods focused on students' drawing abilities (e.g., Eisner, 1967; Thorndike, 1913), while others focused on the students' sense of aesthetics (e.g., Horn & Smith, 1945; Meier & Seashore, 1929; Thorndike, 1916) or their level of creativity (e.g., Knauber, 1932; Clark & Zimmerman, 1986). This lack of consensus is a concern, but it could also be viewed as a benefit for all stakeholders. Teachers would have the flexibility to develop programs and services to meet the needs of gifted visual arts students in the manner that aligned with their beliefs. For example, teachers who valued sensitivity to artistic details will be able to develop assessments that identify students who are strong in that area. Teachers who believed that gifted visual arts students should be experimental when creating artworks could develop identification methods and programs that meet the needs of these students.

Overall, it was interesting to discover the various elements that influenced the participants' perceptions about visual arts giftedness. Results from qualitative and quantitative analysis helped to highlight the differences the participants considered among gifted visual arts students and students who were identified as gifted using traditional measures. Disposition towards creative thoughts and risk-taking behaviors are among the key differences highlighted by the participants. These differences helped to provide a deeper understanding about the characteristics of students who were gifted in visual arts and how some of these characteristics could be unique to this group of students. However, it was also important to note that there are also characteristics that the gifted art students shared with gifted students who were identified with traditional measures. Having perseverance and being self-directed are examples of such

characteristics. As such, it was important for teachers to consider both sets of characteristics when identifying students for services that served gifted art students.

Perceptions about Art Giftedness and Application

There is still a lot of work that needs to be done in the field of visual arts giftedness, which the Perceptions about Art Giftedness survey can help. First, teachers who work with students with gifts and talents in the area of visual arts can use the instrument to understand how they perceive visual art giftedness. Are gifted art students being identified through their creative behaviors or conventional concept of giftedness? Are there avenues for the students to apply and develop creative behaviors? This information is useful in helping the teachers in designing art programs and services to meet the needs of their students. Second, researchers can use the survey to examine their participants' perceptions about visual art giftedness. Currently there is no instrument that can help researchers consider the influence of teachers' perceptions about visual art giftedness on the services and programs they provide to the students. As such, it can be difficult to evaluate the effectiveness of these services and programs in meeting the needs of the gifted art students, especially if there is a mismatch between the students identified and the service provided.

Limitations

For the quantitative part of the study, there was 150 participants. Based on the result from the Kaiser-Meyer-Olkin Measure of Sampling Adequacy, the number of participants was adequate to examine the factor structure for the instrument, even though the sample was still smaller than the recommended number for an EFA (Brown, 2014). In part, this could be explained by the selection criteria required by the nature of the study. Ideally with a larger

sample I would be able to increase the confidence level of the survey being able to generate valid and reliable data about art teachers' perception about visual art giftedness.

Another limitation of the study was that these participants are all teachers in United States. Thus, they provided a perspective of art education and visual arts giftedness that was limited to the art experiences within the US. Although the US consists of many different states and school districts, the art education within the US has different emphases and foci from art education in different countries. In addition, 90.9% of the interviewees identified themselves as White Americans. The lack of representations from the other cultures limited the findings of this study. This is an issue because culture influences the value art teachers placed on the subject and in turn how they perceived the attitudes and behaviors of gifted art students.

Last, in this study, I had only sought teachers' perceptions of visual arts giftedness. As art teachers are often gatekeepers to gifted services, examining their perceptions about visual arts giftedness helped to extend the understanding about identifying art students with gifts and talents. However, students who had been identified and their parents may have different perceptions about visual art giftedness, and it was important to examine their perceptions about the qualities the students possess that resulted in them being identified as gifted in visual arts.

Future Directions

This study can be viewed as a prelude to the work that is needed in the field of gifted art education. The findings from this study helped to shed some light on what were the teachers' focus when they were identifying students who were gifted in art. However, as this is the first instrument of its kind, it is important to conduct a confirmatory factor analysis (CFA) to verify the factor structure of the instrument to ensure that the yielded data was valid and reliable. Beside conducting a CFA, future researchers will also need to ensure that the participants are

from the different states in the US and different ethnicities are represented in the study. This will help to in increasing the confidence level of the survey to generate valid and reliable data.

Another future direction is to replicate the study in different countries. Art education is strongly associated with societal and cultural influences. Thus, futures studies that are replicated in different cultural contexts and with different teachers may yield different understandings of the perceptions and values these teachers have on visual art giftedness. The findings could extend the current understanding about visual art giftedness and be useful in developing programs and services to meet the needs of students with gifts and talents in visual arts.

Lastly, the instrument can be used as a steppingstone by researchers to develop rating or observation scales that could help the identification of gifted art students. As mentioned earlier, teachers often use drawing tests and other locally developed methods to identify and serve students who are gifted in visual arts. Some of these methods take time and others vary accordingly to the teachers' beliefs about art giftedness. Thus, by developing a research- based instrument to help in the identification of gifted art students and providing them with appropriate services will help to address some of these issues. Such instrument would help in ensuring all students, and not just those who have strong technical skills, have a chance to be identified and served.

Conclusion

This study examined what art teachers perceived to be characteristics of students with gifts in visual arts and to what extent these characteristics can be measured using a survey instrument. Results from qualitative and quantitative analysis helped to illustrate how participants were looking for characteristics in gifted visual arts students that goes beyond those that highlighted by researchers in gifted education. Dispositions towards creative behaviors such

as tolerance for risk, openness to experiments and exploration, and being able to create artworks that showed originality and personal responses, were some of the unique attitudes and behaviors the participants looked for and observed in their gifted visual arts students. However, the participants were not only focused on creative behaviors when identifying gifted art students, but they were also looking for conventional gifted characteristics; such as self-directedness, independence, and task commitment. The participants recognized that for students with gifts and talents in visual arts to develop their potential, they would need to possess both sets of characteristics. Interestingly, although there was consensus among the participants about the characteristics and behaviors observed in gifted art students, there was no agreement among them when asked about specific art making skills. This is an area of concern when many schools use art production as a mean of identifying gifted art students.

REFERENCES

- Aksoy, K. (2008). *Utility of discriminant analysis in identifying artistically gifted students*. (Unpublished doctoral dissertation). University of Houston, TX.
- Anastasi, A., & D'angelo, R. Y. (1952). A comparison of Negro and white preschool children in language development and Goodenough Draw-A-Man IQ. *The Pedagogical Seminary and Journal of Genetic Psychology*, 81, 147-165.
- Arts High School (2019). *Visual Art Audition Requirements*. Retrieved from:
<https://www.nps.k12.nj.us/ART/wp-content/uploads/sites/104/2017/11/VISUAL-ART-Audition-Requirements-2018.pdf>
- Bae, J. (2014). Elements of concern in pre-service art teaching. *Visual Arts Research*, 40, 57-66.
- Bianco, M., Harris, B., Garrison-Wade, D., & Leech, N. (2011). Gifted girls: Gender bias in gifted referrals. *Roepers Review*, 33, 170–181. doi:10.1080/02783193.2011.580500
- Borland, J. H. (2003). The death of giftedness: Gifted education without gifted children. In J. H. Borland (Ed.), *Rethinking gifted education* (pp. 105-126). New York, NY: Teachers College Press.
- Britton, J. H. (1954). Influence of social class upon performance on the Draw-A-Man Test. *Journal of Educational Psychology*, 45, 44-51.
- Brown, T. A. (2014). *Confirmatory factor analysis for applied research*. New York, NY: Guilford Publications.
- Buckley, M.R., Norris, A.C., & Wiese, D.S. (2000). A brief history of the selection interview: May the next 100 years be more fruitful. *Journal of Management History*, 6, 113-126.
- Burton, D. (2001). How do we teach? Results of a national survey of instruction in secondary art education. *Studies in Art Education*, 42, 131-145.

- Burton, D. (2016). A quartile analysis of selected variables from the 2008 NAEP visual arts report card. *Studies in Art Education*, 57, 165-178. doi:10.1080/00393541.2016.1133198
- Carroll, H. A., & Eurich, A. C. (1932). Abstract intelligence and art appreciation. *Journal of Educational Psychology*, 23, 214-220.
- Callahan, C. M. (2013). Evaluating services offered to gifted and talented students. In C. M. Callahan & H. L. Hertberg-Davis (Eds.), *Fundamentals of gifted education: Considering multiple perspectives* (pp. 440–447). New York, NY: Routledge.
- Clark, G., Day, M., & Greer, W. D. (1987). Discipline-based art education: Becoming students of art. *Journal of Aesthetic Education*, 21, 129–193. doi:10.2307/3332748
- Clark, G., & Wilson, T. (1991). Screening and identifying gifted/talented students in the visual arts with Clark's Drawing Abilities Test. *Roeper Review*, 13, 92-97.
- Clark, G., & Zimmerman, E. (1984). *Educating artistically talented students*. Syracuse, NY: Syracuse University Press.
- Clark, G., & Zimmerman, E. (1992). Issues and practices related to identification of gifted and talented students in the visual arts. *The National Research Center on the Gifted and Talented*, 9202, 1-42.
- Clark, G., Zimmerman, E., & Zurmuehlen, M. (1987). *Understanding art testing: Past influences, Norman C. Meier's contributions, present concerns, and future possibilities*. Reston, VA: National Art Education Association.
- Colom, R., Flores-Mendoza, C. E., & Abad, F. J. (2007). Generational changes on the Draw-a-Man test: A comparison of Brazilian urban and rural children tested in 1930, 2002 and 2004. *Journal of Biosocial Science*, 39, 79-89.

- Corbin, J., & Strauss, A.L. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Costa, A. L., & Kallick, B. (2000). *Describing 16 Habits of Mind*. Retrieved from:
http://schoolnet.org.za/teach10/resources/eo/resources/thinking/Habits_of_Mind.pdf
- Coutts, G., & Dougall, P. (2005). Drawing in perspective: Scottish art and design teachers discuss drawing. *International Journal of Art & Design Education*, 24, 138-148.
- Creswell, J.W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Davis, G. A., Rimm, S. B., & Siegle, D. (2013). *Education of the gifted and talented* (6th ed.). Upper Saddle River, NJ: Pearson Education
- Design and Architecture Senior High. (2018). *Design and Architecture Senior High*. Retrieved from: <https://www.dashschool.org/?p=2>
- Dennis, W. (1942). The performance of Hopi children on the Goodenough Draw-a-man Test. *Journal of Comparative Psychology*, 34(3), 341-348.
- Flowerday, T., & Schraw, G. (2000). Teacher beliefs about instructional choice: A phenomenological study. *Journal of Educational Psychology*, 92, 634–645. doi:10.1037/0022-0663.92.4.634
- Dewey, J. (1934). *Art as experience*. US: Van Rees Press.
- Dorn, C.M., & Sabol, F.R. (2006). The effectiveness and use of digital portfolios for the assessment of art performances in selected secondary schools. *Studies in Art Education*, 47, 344-362.
- Eisner, E. W. (2002). *The Arts and the Creation of Mind*. New Haven, CT: Yale University Press.

- Feldhusen, J. F., & Jarwan, F. A. (2000). Identification of gifted and talented youth for educational programs. In K. A. Heller, F. J. Mönks, R. J. Sternberg, & R. F. Subotnik (Eds.), *International handbook of giftedness and talent* (pp. 271-282). London, England: Elsevier.
- Flowerday, T., & Schraw, G. (2000). Teacher beliefs about instructional choice: A phenomenological study. *Journal of Educational Psychology*, 92, 634 – 645.
doi:10.1037/0022-0663.92.4.634
- Foreman, J. L., & Gubbins, E. J. (2015). Teachers see what ability scores cannot: Predicting student performance with challenging mathematics. *Journal of Advanced Academics*, 26, 5-23. doi:10.1177/1932202X14552279
- Gagné, F. (2004). Transforming gifts into talents: the DMGT as a developmental theory. *High Ability Studies*, 15, 119–147. doi:10.1080/1359813042000314682
- Gagné, F. (2010). Motivation within the DMGT 2.0 framework. *High Ability Studies*, 21, 81–99. doi:10.1080/13598139.2010.525341
- Gardner, H. (1996). The assessment of student learning in the arts. In Boughton, D., Eisner, E. W., & Ligtoet, J. (Eds.), *Evaluating and assessing the visual arts in education: International perspectives* (pp. 131-155). New York, NY: Teachers College Press.
- Gentry, M. (2009). Myth 11: A comprehensive continuum of gifted education and talent development services. *Gifted Child Quarterly*, 53, 262-265.
doi:10.1177/0016986209346937
- Graham, M.A., & Sims-Gunzenhauser, A. (2009). Advance placement in studio art and secondary art education policy: Countering the null curriculum. *Arts Education Policy Review*, 111(3), 18-24.

- Haller, C.s., Courvoisier, D.S., & Cropley, D.H. (2011). Perhaps there is accounting for taste: Evaluating the creativity of products. *Creativity Research Journal*, 23, 99-108.
doi:10.1080/10400419.2011.571182
- Haward, L. R. C., & Roland, W. A. (1954). 127. Some inter-cultural differences on the Draw-A-Man Test: Goodenough scores. *Man*, 86-88.
- Hetland, L., Winner, E., Veenema, S., & Sheridan, K. (2007). *Studio thinking: The real benefits of visual arts education*. New York: Teachers College Press.
- Hickman, R. (2010). *Why we make art and why it is taught*. Chicago, IL: Intellect Books.
- High School for the Performing and Visual Arts. (2018). *Visual arts department*. Retrieved from: <http://www.houstonisd.org/Domain/27477>
- Hoepfner, R. (1984). Measuring student achievement in art. *Studies in Art Education*, 25, 251-258.
- Hoge, R. D., & Cudmore, L. (1986). The use of teacher-judgment measures in the identification of gifted pupils. *Teaching and Teacher Education*, 2, 181-196. doi:10.1016/0742-051X(86)90016-8
- Haroutounian, J. (1995). Talent identification and development in the arts: An artistic/educational dialogue. *Roeper Review*, 18, 112–117.
doi:10.1080/02783199509553710
- Haroutounian, J. (2017). Artistic ways of knowing in gifted education: Encouraging every student to think like an artist. *Roeper Review*, 39, 44-58.
doi:10.1080/02783193.2016.1247397
- Horn, C., & Smith, L. F. (1945). The Horn art aptitude inventory. *Journal of Applied Psychology*, 29, 350-355.

- Judge, T. A., Cable, D. M., & Higgins, C. A. (2001). The employment interview: A review of recent research and recommendations for future research. *Human Resource Management Review, 10*, 383-406.
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika, 39*, 31–36.
doi:10.1007/BF02291575
- Kárpáti, A. (1997). Detection and development of visual talent. *Journal of Aesthetic Education, 31*(4), 79-93.
- Keiper, S., Sandene, B.A., Persky, H.R., & Kuang, M. (2009). *The nation's report card: Arts 2008 Music & Visual Arts (NCES 2009–488)*. National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, Washington, D.C
- Knauber, A. J. *The Knauber art ability test*. Cincinnati: A.J. Knauber 1932.
- Lakin, J. M., & Lohman, D. F. (2011). The predictive accuracy of verbal, quantitative, and nonverbal reasoning tests: Consequences for talent identification and program diversity. *Journal for the Education of the Gifted, 34*, 595–623. doi:10.1177/016235321103400404
- Law, S.S. (2011) Being in Traditional Chinese Landscape Painting, *Journal of Intercultural Studies, 32*, 369-382. doi:10.1080/07256868.2011.584615
- Lee, S. Y., & Olszewski-Kubilius, P. (2006). Comparisons between talent search students qualifying via scores on standardized tests and via parent nomination. *Roeper Review, 28*, 157–166. doi:10.1080/02783190609554355
- Levi, A. W., & Smith, R. A. (1991). *Art education: A critical necessity*. Urbana and Chicago: University of Illinois Press.
- Lewis, J. D., DeCamp-Fritson, S. S., Ramage, J. C., McFarland, M. A., & Archwamety, T. (2007). Selecting for ethnically diverse children who may be gifted using Raven's Standard

- Progressive Matrices and Naglieri Nonverbal Abilities Test. *Multicultural Education*, 15(1), 38–42.
- Lohman, D. F. (2005). Review of Naglieri and Ford (2003): Does the Naglieri Nonverbal Ability Test identify equal proportions of high-scoring White, Black, and Hispanic students? *Gifted Child Quarterly*, 49, 19-28. doi:10.1177/001698620504900103
- Lohman, D.F. (2007). *Including nonverbal tests when identifying students for Acceleration*. Retrieved from http://riversidepublishing.com/products/group/cogat6/pdfs/newsletters/CS_vol5_winter07.pdf
- Lohman, D. F., Korb, K. A., & Lakin, J. M. (2008). Identifying academically gifted English-language learners using nonverbal tests: A comparison of the Raven, NNAT, and CogAT. *Gifted Child Quarterly*, 52, 275-296. doi:10.1177/0016986208321808
- Lowenfeld, V. (1957). *Creative and mental growth* (3rd ed.). New York, NY: MacMillan.
- Marland, S.P., J. (1972). *Education of the gifted and talented - Volume 1: Report to the Congress of the United States by the U. S. Commissioner of Education*. Retrieved from <http://files.eric.ed.gov/fulltext/ED056243.pdf>
- McBee, M. T. (2006). A descriptive analysis of referral sources for gifted identification screening by race and socioeconomic status. *Journal of Advanced Academics*, 17, 103-111. doi:10.4219/jsge-2006-686
- McBee, M., & Makel, M. (2017, July 6). *What proportion of people are gifted? Assessing the implications of conceptions of giftedness*. Retrieved from psyarxiv.com/m7zff
- Meier, N. C. (1928). A measure of art talent. *Psychological Monographs*, 39, 184-199.

- Meier, N.C., & Seashore, C.E. (1929). *The Meier-Seashore Art judgement test*. Iowa City, Bureau of Educational Research, University of Iowa.
- Miller, E. M. (2009). The effect of training in gifted education on elementary classroom teachers' theory-based reasoning about the concept of giftedness. *Journal for the Education of the Gifted*, 33, 65-105. Retrieved from <http://eric.ed.gov/?id=EJ856177>
- Naglieri, J. A., & Ford, D.Y. (2003). Addressing underrepresentation of gifted minority children using the Naglieri Nonverbal Ability Test (NNAT). *Gifted Child Quarterly*, 47, 155-160.
- Naglieri, J. A., & Ford, D. Y. (2005). Increasing minority children's participation in gifted classes using the NNAT: A response to Lohman. *Gifted Child Quarterly*, 49, 29-36.
doi:10.1177/001698620504900104
- National Assessment Governing Board. (2008). *2008 Arts education assessment framework*. Retrieved from: <https://files.eric.ed.gov/fulltext/ED502927.pdf>
- National Association for Gifted Children. (n.d.). *Definitions of Giftedness*. Retrieved from: <http://www.nagc.org/resources-publications/resources/definitions-giftedness>
- National Association for Gifted Children. (2008). *The Role of Assessments in the Identification of Gifted Students*. Retrieved from <https://www.nagc.org/sites/default/files/Position%20Statement/Assessment%20Position%20Statement.pdf>
- National Association for Gifted Children. (2010). *Redefining giftedness for a new century: Shifting the paradigm*. Retrieved from <http://www.nagc.org/sites/default/files/Position%20Statement/Redefining%20Giftedness%20for%20a%20New%20Century.pdf>

- National Association for Gifted Children. (2011). *Identifying and Serving Culturally and Linguistically Diverse Gifted Students*. Retrieved from <https://www.nagc.org/sites/default/files/Position%20Statement/Identifying%20and%20Serving%20Culturally%20and%20Linguistically.pdf>
- National Association for Gifted Children. (2013). *State definitions of giftedness*. Retrieved from [http://www.nagc.org.442elmp01.blackmesh.com/sites/default/files/Advocacy/State%20definitions%20\(8-1-13\).pdf](http://www.nagc.org.442elmp01.blackmesh.com/sites/default/files/Advocacy/State%20definitions%20(8-1-13).pdf)
- National Association for Gifted Children. (2019). *A Definition of Giftedness that Guides Best Practice*. Retrieved from <https://www.nagc.org/sites/default/files/Position%20Statement/Definition%20of%20Giftedness%20%282019%29.pdf>
- National Association for Gifted Children & The Council of State Directors of Programs for the Gifted. (2015). *2014-2015 State of the states in gifted education: Policy and practice data*. Retrieved from [https://www.nagc.org/sites/default/files/key%20reports/2014-2015%20State%20of%20the%20States%20\(final\).pdf](https://www.nagc.org/sites/default/files/key%20reports/2014-2015%20State%20of%20the%20States%20(final).pdf)
- National Coalition for Core Arts Standards. (2014). National core arts standards: A conceptual framework for arts learning. Retrieved from <http://www.nationalartsstandards.org/content/conceptual-framework>
- O' Donoghue, D. (2011). Has the art college entry portfolio outlived its usefulness as a method of selecting students in an age of relational, collective and collaborative art practice? *International Journal of Education & the Arts*, 12(3), 1–27.

- Passow, A. H., & Frasier, M. M. (1994). Toward improving identification of talent potential among minority and disadvantage students. *Roeper Review*, 18, 198-202.
doi:10.1080/02783199609553734
- Patton, R. M., & Buffington, M. L. (2016). Keeping up with our students: The evolution of technology and standards in art education. *Arts Education Policy Review*, 117(3), 1–9.
doi:10.1080/10632913.2014.944961
- Peterson, J. S. (1999). Gifted—Through whose cultural lens? An application of the postpositivistic mode of inquiry. *Journal for the Education of the Gifted*, 22, 354-383.
doi:10.1177/016235329902200403
- Purkiss, S. L. S., Perrewé, P. L., Gillespie, T. L., Mayes, B. T., & Ferris, G. R. (2006). Implicit sources of bias in employment interview judgments and decisions. *Organizational Behavior and Human Decision Processes*, 101, 152-167.
- Raven, J. (2000). The Raven's progressive matrices: change and stability over culture and time. *Cognitive Psychology*, 41(1), 1-48.
- Rawlings, J. R. (2013). An interview with Lynn Tuttle about the core arts standards: Embracing a new paradigm in arts education. *Arts Education Policy Review*, 114(3), 157–161.
doi:10.1080/10632913.2013.803408
- Renzulli, J. S. (1978). What makes giftedness? Reexamining a definition. *Phi Delta Kappan*, 60, 180-184, 261.
- Renzulli, J. S. (1988). A decade of dialogue on the three-ring conception of giftedness. *Roeper Review*, 11, 18–25. doi:10.1080/02783198809553154
- Renzulli, J. S. (1990). A practical system for identifying gifted and talented students. *Early Child Development and Care*, 63(1), 9–18. doi:10.1080/0300443900630103

- Renzulli, J. S. (2002). Emerging conceptions of giftedness: building a bridge to the new century. *Exceptionality, 10*, 67–75. doi: 10.1207/S15327035EX1002_2
- Renzulli, J.S., & Reis, S.M. (2012). Defensible and doable: A practical multiple-criteria gifted program identification system. In Scott L. Hunsaker (Ed.), *Identification: The theory and practice of identifying students for gifted and talented education services* (pp. 25-56). Mansfield Center, CT: Creative Learning Press.
- Rose, S.E., Jolley, R.P., & Burkitt, E. (2006). A review of children's, teachers' and parents' influences on children's drawing experience. *International Journal of Art & Design Education, 25*, 341-349.
- Rosenthal, R. (2002). Covert communication in classrooms, clinics, courtrooms, and cubicles. *American Psychologist, 57*, 839–849.
- Ryser, G.R. (2011). Qualitative and quantitative approaches to assessment. In Susan K. Johnsen (Ed.), *Identifying gifted students: A practical guide* (pp.37-61). Waco, TX: Prufrock Press Inc.
- Sabol, F. R. (2006a). Identifying Exemplary Criteria to Evaluate Studio Products in Art Education. *Art Education, 59*(6), 6–11. doi:10.1080/00043125.2006.11651613
- Sabol, F. R. (2006b). Development of visual arts talent in adolescence. In F. A. Dixon & S. M. Moon (Eds.), *The handbook of secondary gifted education* (pp. 221-247). Waco, TX: Prufrock Press.
- Silver, R. A. (1983). *Silver Drawing Test of Cognitive and Creative Skills*. Seattle, WA: Special Child Publications.
- Silver, R.A. (2003). The silver drawing test of cognition and emotion. In C.A. Malchiodi (Ed.), *Handbook of art therapy* (pp. 410-419). New York, NY: Guilford Press.

- Stalker, M. Z. (1981). Identification of the gifted in art. *Studies in Art Education*, 22(2), 49-56.
- Sternberg, R. J. (1984). Toward a triarchic theory of human intelligence. *Behavioral & Brain Sciences*, 7, 269–287.
- Sternberg, R. J. & Davidson, J. E. (Eds.). (2005). *Conceptions of giftedness*. New York, NY: Cambridge University Press.
- Stone, D. L. (2015). Art teachers' beliefs about creativity. *Visual Arts Research*, 41, 82-100.
- Strauss, A.L. & Corbin, J. (1990) *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage Publications.
- Strauss, A.L. & Corbin, J. (1994). Grounded theory methodology: An overview. In Norman K. Denzin & Yvonna Lincoln (Eds.), *Handbook of qualitative research* (pp. 273-285). Thousand Oaks, CA: Sage Publications.
- Subotnik, R. F., & Jarvin, L. (2005). Beyond expertise: Conceptions of giftedness as great performance. In R. J. Sternberg & J. E. Davidson (Eds.), *Conceptions of giftedness* (2nd ed., pp. 343–357). New York, NY: Cambridge University Press.
- Subotnik, R. F., Olszewski-Kubilius, P., & Worrell, F. C. (2011). Rethinking giftedness and gifted education: A proposed direction forward based on psychological science. *Psychological Science in the Public Interest*, 12, 3–54. doi:10.1177/1529100611418056
- Tay, J. (2019). *Singapore Art Teachers' Perceptions of Gifted Art Students*. Manuscript in progress.
- Terman, L.M. (1926). *Genius studies of genius: Mental and physical traits of a thousand gifted children*. Stanford, CA: Stanford University Press.
- The Chicago High Schools for the Arts. (2019). *Audition Requirements*. Retrieved from: <https://chiarts.org/prospective-students-parents/visual-arts/auditions/>

- Thorndike, E.L. (1913). *The measurement of achievement in drawing* (Vol. 14, No. 5). New York, NY: Teachers College, Columbia University.
- Thorndike, E.L. (1916). Tests of esthetic appreciation. *Journal of Educational Psychology*, 7(10), 509-522.
- Tobias, S., & Carlson, J. E. (1969). Brief report: Bartlett's test of sphericity and chance findings in factor analysis. *Multivariate Behavioral Research*, 4, 375–377. doi: 10.1207/s15327906mbr0403_8
- U.S. Department of Education, Office of Educational Research. (1993). *National excellence: A case for developing America's talent*. Washington, DC: U.S. Government Printing Office.
- VanTassel-Baska, J. (2005). Domain-specific giftedness: Applications in school and life. In Sternberg, R. J. & Davidson, J. E. (Eds.), *Conceptions of giftedness* (pp.358-376). Cambridge, UK: Cambridge University Press.

APPENDIX A

Perceptions about Art Giftedness (Original)

INSTRUCTIONS: Please complete the following survey to tell us your views about students gifted in art. Your answers will be kept strictly confidential, and all reporting will be done at the group level. This survey should take approximately 10-15 minutes to complete.

<p><u>PARTICIPANT CODE</u> (For evaluation purposes only)</p> <table style="width: 100%; text-align: center;"> <tr> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> </tr> </table>							1	2	3	4	5	6	<p>Instructions for Creating your <u>Participant Code</u></p> <p>Box 1 – The first initial of your middle name Box 2 – The first initial of your mother's first name Box 3 – The first initial of your father's first name Boxes 4 and 5 – Your two digit birth month Box 6 – The last digit of your birth year</p>	<p>If any of these do not apply, use an X</p>
1	2	3	4	5	6									

Use the following scale below to describe the frequency in which you observed each behavior within your classroom:

1	2	3	4	5	6
Never	Almost never	Sometimes	Fairly often	Very often	Always

Art Behaviors (AB) – Think about your high ability students during a typical art lesson that you are teaching. How often do you observe the following behaviors in the students gifted in art in your classroom? **Select one response for each item.** You can use the comments section to provide additional information.

	Frequency of observation
AB1. Shows strong technical artistic skills at the beginning	1 2 3 4 5 6
AB2. Masters technical artistic skills quickly	1 2 3 4 5 6
AB3. Works hard to improve technical artistic skills	1 2 3 4 5 6
AB4. Shows flexibility when working with different media	1 2 3 4 5 6
AB5. Demonstrates risk-taking behaviors in work	1 2 3 4 5 6
AB6. Works with focused concentration	1 2 3 4 5 6
AB7. Shows persistent engagement in work	1 2 3 4 5 6
AB8. Communicates artistic intention creatively	1 2 3 4 5 6
AB9. Able to work alone with minimal direction	1 2 3 4 5 6
AB10. Responsive to ideas and suggestions	1 2 3 4 5 6
AB11. Able to make connections between classroom learning and personal experiences	1 2 3 4 5 6
AB12. Creates works that show originality of thinking	1 2 3 4 5 6
AB13. Demonstrates fluency in exploration of ideas	1 2 3 4 5 6
<p>Comments:</p>	

Use the following scale below to describe the frequency in which you observed each attitude within your classroom:

1	2	3	4	5	6
Never	Almost never	Sometimes	Fairly often	Very often	Always

Art Attributes (AA) – Think about your high ability students during a typical art lesson that you are teaching. How often do you observe the following attributes in the students gifted in art in your classroom? **Select one response for each item.** You can use the comments section to provide additional information.

	Frequency of observation
AA1. Self-motivated	1 2 3 4 5 6
AA2. Confident when expressing ideas	1 2 3 4 5 6
AA3. Intellectual curiosity	1 2 3 4 5 6
AA4. High expectations for self	1 2 3 4 5 6
AA5. Strong interest in art	1 2 3 4 5 6
AA6. Highly disciplined and driven when working	1 2 3 4 5 6
AA7. Strong sense of ownership when creating artwork	1 2 3 4 5 6
AA8. Sensitive to artistic elements and principles	1 2 3 4 5 6
AA9. Willingness to put in extra effort	1 2 3 4 5 6
AA10. High tolerance for ambiguity	1 2 3 4 5 6
Comments:	

Teacher Beliefs (TB) – Think about your personal perceptions towards art giftedness.

TB1. Please rank the importance of the following qualities in a gifted art student. Fill in your rank order in the spaces provided using the numbers 1 through 5, with 1 indicating least importance and 5 indicating most importance. You can use the comments section to provide additional information.

_____	Strong drawing skills
_____	Strong critical thinking skills
_____	Strong creative thinking skills
_____	Strong critique skills
_____	Strong communication skills

Comments:

TB2. Please rank the importance of the following qualities in a gifted art student. Fill in your rank order in the spaces provided using the numbers 1 through 5, with 1 indicating least importance and 5 indicating most importance. You can use the comments section to provide additional information.

_____	Showing task commitment
_____	Showing self-directedness
_____	Showing self-confidence
_____	Showing interest
_____	Showing willingness to learn

Comments:

TB3. Please rank the importance of the following qualities in a gifted art student. Fill in your rank order in the spaces provided using the numbers 1 through 5, with 1 indicating least importance and 5 indicating most importance. You can use the comments section to provide additional information.

_____	Being sensitive to artistic details when creating artwork
_____	Being expressive when creating artwork
_____	Being flexible when creating artwork
_____	Being experimental when creating artwork
_____	Being reflective when creating artwork

Comments:

Use the following scale below to indicate your degree of agreement or disagreement with each item:				
1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Self-perceptions (SE) – Think about yourself and your experiences with art giftedness. Select one response for each item. You can use the comments section to provide additional information.				
			Degree of agreement or disagreement	
SE1. I was or could have been in a gifted art program in school.			1 2 3 4 5	
SE2. Most of my family consider me gifted in art.			1 2 3 4 5	
SE3. I am gifted in art.			1 2 3 4 5	
SE4. Most of my family are gifted in art.			1 2 3 4 5	
SE5. People consider me gifted in art.			1 2 3 4 5	
Comments:				

Participant Information (PI)

PI1. Gender: What is your gender?

- ☐ Female
☐ Male
☐ Check here if you prefer not to answer.

PI2. Age: What is your age?

- ☐ Under 25
☐ 25 - 34
☐ 35 - 44
☐ 45 - 54
☐ 55 or older
☐ Check here if you prefer not to answer.

PI3. Ethnicity: Please specify your ethnicity.

- ☐ White
☐ Hispanic or Latino
☐ Black or African American
☐ Native American, Alaska Native, or American Indian
☐ Asian / Pacific Islander
☐ Others: _____ Please list here.
☐ Check here if you prefer not to answer.

PI4. Education: What is the highest degree or level of school you have completed? If currently enrolled, highest degree received.

- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Professional degree
- ☐ Doctoral degree

PI5. Working experience: How many years have you worked in art education?

- ☐ 0 – 3 years
- ☐ 4 – 6 years
- ☐ 7 – 9 years
- ☐ 10 – 12 years
- ☐ 13 – 15 years
- ☐ 16 years or more

PI6. Working experience: How many years have you worked in your current school?

- ☐ 0 – 3 years
- ☐ 4 – 6 years
- ☐ 7 – 9 years
- ☐ 10 – 12 years
- ☐ 13 – 15 years
- ☐ 16 years or more

PI7. Position/Title: What is your position in your current school?

- ☐ Teacher – Please list media taught and grade levels:

- ☐ Subject Specialist/ Head – Please describe your role:

- ☐ Head of Department – Please describe your role:

- ☐ Not listed – Please describe:

PI8. Art forms taught: What kind of form(s) do you teach in the classroom? Please consider all forms that you have taught. Check all that apply.

- ☐ Animation
- ☐ Calligraphy/ Lettering
- ☐ Ceramics
- ☐ Crafts
- ☐ Drawing
- ☐ Design
- ☐ Fibers/ Textile
- ☐ Jewelry
- ☐ Painting
- ☐ Photography
- ☐ Printmaking
- ☐ Media arts/ Technology
- ☐ Metals
- ☐ Mixed media
- ☐ Sculpture/ Three-dimensional works
- ☐ Not listed* *If checked, please explain here:

PI9. Art forms engagement: What kind of art form(s) do you personally engage in?
Check all that apply.

- ☐ Animation
- ☐ Calligraphy/ Lettering
- ☐ Ceramics
- ☐ Crafts
- ☐ Drawing
- ☐ Design
- ☐ Fibers/ Textile
- ☐ Jewelry
- ☐ Painting
- ☐ Photography
- ☐ Printmaking
- ☐ Media arts/ Technology
- ☐ Metals
- ☐ Mixed media
- ☐ Sculpture/ Three-dimensional works
- ☐ Not listed* *If checked, please explain here:

Thank you for completing the survey!

APPENDIX B

Questions in the semi-structured interview protocol

Teacher Beliefs

1. What do you think is the role of art education in today's society?
2. How important is it to you to differentiate your students/ to identify the talented students?
Why do you think so?

Perceptions of Talented Art Students

3. In your opinion, what are some of the attributes that differentiate a talented art student from others? Why do you think so?
4. What do these attributes look like within the art class?
5. What are some of the unique behaviors that talented art students exhibit **within the art classroom**?
6. What are some of the unique behaviors that talented art students exhibit **out of the art classroom**?
7. What will you consider to be positive/negative attributes of a talented art student?
8. How will these positive/negative attributes manifest outside the art classroom?
9. What do you value as the most important attribute that differentiate the talented art students? Why?
10. If not addressed with the earlier questions: Do you think talented art students respond to artwork differently and this can be in written form or verbally? Why or why not?
11. If not addressed with the earlier questions: Do you think talented art students need a different form of learning environment than do other students? Why or why not and how would you describe the environment?

Identification and Assessment Beliefs

12. What are the purposes of the tasks used in the selection process?
13. What are you specifically looking for in these tasks?

APPENDIX C

Perceptions about Art Giftedness (Revised)

INSTRUCTIONS: Please complete the following survey to tell us your views about students with gifts and talents in art. Your answers will be kept strictly confidential, and all reporting will be done at the group level. This survey should take approximately 10-15 minutes to complete.

<p style="text-align: center;"><u>PARTICIPANT CODE</u> (For evaluation purposes only)</p> <table style="margin: auto; text-align: center;"> <tr> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> </tr> <tr> <td style="width: 30px;">1</td> <td style="width: 30px;">2</td> <td style="width: 30px;">3</td> <td style="width: 30px;">4</td> <td style="width: 30px;">5</td> <td style="width: 30px;">6</td> </tr> </table>							1	2	3	4	5	6	<p>Instructions for Creating your <u>Participant Code</u></p> <p>Box 1 – The first initial of your middle name Box 2 – The first initial of your mother's first name Box 3 – The first initial of your father's first name Boxes 4 and 5 – Your two digit birth month Box 6 – The last digit of your birth year</p>	<p>If any of these do not apply, use an X</p>
1	2	3	4	5	6									

Use the following scale below to describe the frequency in which you observed each behavior within your classroom:

1	2	3	4	5	6
Never	Almost never	Sometimes	Fairly often	Very often	Always

Dispositions towards creative giftedness (CG) – Think about your high ability students during a typical art lesson that you are teaching. How often do you observe the following behaviors in the students with gifts and talents in art in your classroom? **Select one response for each item.** You can use the comments section to provide additional information.

	Frequency of observation
CG1. Demonstrates fluency in exploration of ideas	1 2 3 4 5 6
CG2. Able to make connections between classroom learning and personal experiences	1 2 3 4 5 6
CG3. Demonstrates risk-taking behaviors in work	1 2 3 4 5 6
CG4. Confident when expressing ideas	1 2 3 4 5 6
CG5. Creates works that show originality of thinking	1 2 3 4 5 6
CG6. Communicates artistic intention creatively	1 2 3 4 5 6
CG7. Intellectual curiosity	1 2 3 4 5 6
CG8. Shows flexibility when working with different media	1 2 3 4 5 6
CG9. High tolerance for ambiguity	1 2 3 4 5 6
CG10. Responsive to ideas and suggestions	1 2 3 4 5 6
Comments:	

Use the following scale below to describe the frequency in which you observed each attitude within your classroom:

1	2	3	4	5	6
Never	Almost never	Sometimes	Fairly often	Very often	Always

Dispositions towards Conventional Giftedness (CG) – Think about your high ability students during a typical art lesson that you are teaching. How often do you observe the following attributes in the students with gifts and talents in art in your classroom? **Select one response for each item.** You can use the comments section to provide additional information.

	Frequency of observation
OG1. Works with focused concentration	1 2 3 4 5 6
OG2. Shows persistent engagement in work	1 2 3 4 5 6
OG3. Highly disciplined and driven when working	1 2 3 4 5 6
OG4. Willingness to put in extra effort	1 2 3 4 5 6
OG5. Self-motivated	1 2 3 4 5 6
OG6. Strong interest in art	1 2 3 4 5 6
OG7. Able to work alone with minimal direction	1 2 3 4 5 6
OG8. Works hard to improve technical artistic skills	1 2 3 4 5 6
OG9. High expectations for self	1 2 3 4 5 6
Comments:	

Teacher Beliefs (TB) – Think about your personal perceptions towards art giftedness.

TB1. Please rank the importance of the following qualities in a gifted art student. Fill in your rank order in the spaces provided using the numbers 1 through 5, with 1 indicating least importance and 5 indicating most importance. You can use the comments section to provide additional information.

_____	Strong drawing skills
_____	Strong critical thinking skills
_____	Strong creative thinking skills
_____	Strong critique skills
_____	Strong communication skills

Comments:

TB2. Please rank the importance of the following qualities in a gifted art student. Fill in your rank order in the spaces provided using the numbers 1 through 5, with 1 indicating least importance and 5 indicating most importance. You can use the comments section to provide additional information.

_____	Showing task commitment
_____	Showing self-directedness
_____	Showing self-confidence
_____	Showing interest
_____	Showing willingness to learn

Comments:

TB3. Please rank the importance of the following qualities in a gifted art student. Fill in your rank order in the spaces provided using the numbers 1 through 5, with 1 indicating least importance and 5 indicating most importance. You can use the comments section to provide additional information.

_____	Being sensitive to artistic details when creating artwork
_____	Being expressive when creating artwork
_____	Being flexible when creating artwork
_____	Being experimental when creating artwork
_____	Being reflective when creating artwork

Comments:

Use the following scale below to indicate your degree of agreement or disagreement with each item:				
1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Self-perceptions (SE) – Think about yourself and your experiences with art giftedness. Select one response for each item. You can use the comments section to provide additional information.				
			Degree of agreement or disagreement	
SE1. I was or could have been in a gifted art program in school.			1 2 3 4 5	
SE2. Most of my family consider me gifted in art.			1 2 3 4 5	
SE3. I am gifted in art.			1 2 3 4 5	
SE4. Most of my family are gifted in art.			1 2 3 4 5	
SE5. People consider me gifted in art.			1 2 3 4 5	
Comments:				

Participant Information (PI)

PI1. Gender: What is your gender?

- ☐ Female
☐ Male
☐ Check here if you prefer not to answer.

PI2. Age: What is your age?

- ☐ Under 25
☐ 25 - 34
☐ 35 - 44
☐ 45 - 54
☐ 55 or older
☐ Check here if you prefer not to answer.

PI3. Ethnicity: Please specify your ethnicity.

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☐ Native American, Alaska Native, or American Indian
☐ Asian / Pacific Islander
☐ Others: _____ Please list here.
☐ Check here if you prefer not to answer.

PI4. Education: What is the highest degree or level of school you have completed? If currently enrolled, highest degree received.

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- ☐ Master's degree
- ☐ Professional degree
- ☐ Doctoral degree

PI5. Working experience: How many years have you worked in art education?

- ☐ 0 – 3 years
- ☐ 4 – 6 years
- ☐ 7 – 9 years
- ☐ 10 – 12 years
- ☐ 13 – 15 years
- ☐ 16 years or more

PI6. Working experience: How many years have you worked in your current school?

- ☐ 0 – 3 years
- ☐ 4 – 6 years
- ☐ 7 – 9 years
- ☐ 10 – 12 years
- ☐ 13 – 15 years
- ☐ 16 years or more

PI7. Position/Title: What is your position in your current school?

- ☐ Teacher – Please list media taught and grade levels:

- ☐ Subject Specialist/ Head – Please describe your role:

- ☐ Head of Department – Please describe your role:

- ☐ Not listed – Please describe:

PI8. Art forms taught: What kind of form(s) do you teach in the classroom? Please consider all forms that you have taught. Check all that apply.

- ☐ Animation
- ☐ Calligraphy/ Lettering
- ☐ Ceramics
- ☐ Crafts
- ☐ Drawing
- ☐ Design
- ☐ Fibers/ Textile
- ☐ Jewelry
- ☐ Painting
- ☐ Photography
- ☐ Printmaking
- ☐ Media arts/ Technology
- ☐ Metals
- ☐ Mixed media
- ☐ Sculpture/ Three-dimensional works
- ☐ Not listed* *If checked, please explain here:

PI9. Art forms engagement: What kind of art form(s) do you personally engage in?
Check all that apply.

- ☐ Animation
- ☐ Calligraphy/ Lettering
- ☐ Ceramics
- ☐ Crafts
- ☐ Drawing
- ☐ Design
- ☐ Fibers/ Textile
- ☐ Jewelry
- ☐ Painting
- ☐ Photography
- ☐ Printmaking
- ☐ Media arts/ Technology
- ☐ Metals
- ☐ Mixed media
- ☐ Sculpture/ Three-dimensional works
- ☐ Not listed* *If checked, please explain here:

Thank you for completing the survey!