



January 2022

Prioritizing Gifted Pedagogy In Middle School Honors: A Delphi Study

Bailey Nafziger

Follow this and additional works at: <https://commons.und.edu/theses>

Recommended Citation

Nafziger, Bailey, "Prioritizing Gifted Pedagogy In Middle School Honors: A Delphi Study" (2022). *Theses and Dissertations*. 4285.

<https://commons.und.edu/theses/4285>

This Dissertation is brought to you for free and open access by the Theses, Dissertations, and Senior Projects at UND Scholarly Commons. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of UND Scholarly Commons. For more information, please contact und.common@library.und.edu.

PRIORITIZING GIFTED PEDAGOGY IN MIDDLE SCHOOL HONORS: A DELPHI STUDY

by

Bailey Jo Nafziger
Bachelor of Science, The College of St. Scholastica, 2012
Master of Arts, Northern Arizona University, 2017

A Dissertation
Submitted to the Graduate Faculty

Of the

University of North Dakota

In partial fulfillment of the requirements

For the degree of

Doctor of Education

Grand Forks, North Dakota

May
2022

Copyright 2022 Bailey Nafziger

This dissertation, submitted by Bailey Nafziger in partial fulfillment of the requirements for the Degree of Doctorate in Education from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

Dr. Julie Robinson, Chair

Dr. Kathy Smart

Dr. David Cason

Dr. Michelle Griffin

This dissertation is being submitted by the appointed advisory committee as having met all of the requirements of the School of Graduate Studies at the University of North Dakota and is hereby approved.

Chris Nelson
Dean of the School of Graduate Studies

Date

PERMISSION

Title Prioritizing Gifted Pedagogy in Middle School Honors: A Delphi Study
Department Teaching, Leadership, and Practice
Degree Doctor of Education

In presenting this dissertation in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, I agree that the library of this University shall make it freely available for inspection. I further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised my dissertation work or, in her absence, by the Chairperson of the department or the dean of the School of Graduate Studies. It is understood that any copying or publication or other use of this dissertation or part thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University of North Dakota in any scholarly use which may be made of any material in my dissertation.

Bailey Jo Nafziger
March 23, 2022

TABLE OF CONTENTS

LIST OF FIGURES	vii
LIST OF TABLES	viii
ACKNOWLEDGMENTS	ix
DEDICATION	x
ABSTRACT	xi
INTRODUCTION	1
ARTIFACT 1: Problem of Practice Analysis	3
Teachers of Gifted Students	6
Common Solutions to Middle School Gifted Programming	8
Honors Programs	9
Purpose of Study	11
Research Questions	12
Review of Literature	12
Conclusion	31
ARTIFACT 2: Research Approach Narrative	33
Research Approach	33
Participants	39
Limitations and Trustworthiness	40
Results	42
Discussion	44

ARTIFACT 3: Implementation of the Solution..... 46

CONCLUSION..... 48

APPENDICES 51

REFERENCES 61

LIST OF FIGURES

Figure	Page
1. Achievement Orientation Model	14
2. The Enrichment Triad Model	23
3. Teaching Through Concepts, Issues, Themes, and Dimensions.....	28
4. Three Round Delphi Process	36

LIST OF TABLES

Table	Page
1. Continuum of Inquiry	30
2. Priorities and Their Role In AOM	32
3. Quantitative Results	37
4. Qualitative Results	37
5. Updated Research Timeline Provided to Participants	41
6. Quantitative Data from Final Collaborative Round.....	43
7. Pre-Collaboration Qualitative Data: Social Emotional Priorities	43
8. Qualitative Data for Final Round.....	44

ACKNOWLEDGMENTS

I wish to express my sincere appreciation to members of my committee and cohort cronies. Thank you, Julie, Bonni, Mena, Renee, and Rachel for helping me stay on track and organized both academically and mentally.

To my past teachers. Thank you for inspiring my love of learning.

ABSTRACT

This research explores the perceptions of gifted specialists and middle school honors teachers to determine which elements from gifted pedagogy can be used to motivate gifted adolescents in an honors classroom setting. In addition, the priorities of gifted specialists and honors classroom teachers were compared to highlight key patterns. The Delphi approach was used to facilitate three rounds of anonymous collaboration between the two expert groups. Three priorities emerged through the collaboration: 1) critical thinking, 2) acceleration, and 3) goals of the class and curriculum. While social emotional issues were priorities in initial rounds, no social emotional priorities were selected upon completion of the final round of collaboration. Honors teachers did not prioritize social-emotional concerns throughout the study, while gifted specialists frequently ranked the social-emotional priorities at the top of their list. The discrepancy between the two expert groups and their perception of social-emotional needs of gifted students parallels previous research. The findings offered insights into what pedagogical strategies should be prioritized to best motivate gifted adolescents in an honors classroom and served as the focus for a forty-five-hour professional training for teachers looking to obtain a gifted endorsement from their state teaching certification.

INTRODUCTION

This project began during my first year working as an elementary gifted specialist. I had spent the year giving my students standardized projects with specific guidelines and rigid deadlines. Students began coming into our weekly sessions later and later and with even less motivation. It was clear something had to change. As a result, this dissertation was born. It had become a sense-making activity for me as I worked to figure out how gifted education is different from general education classrooms all while reflecting on missed opportunities I had when teaching middle school Honors Science. The deeper I got into research on gifted education, the clearer it became that my experience was a common phenomenon repeated in the literature. Teachers are aware that gifted students exist but are unsure of how to put the needs and nature of gifted students into practice in their classrooms.

As it turns out, there is no steadfast definition of how gifted education is different from general education. It depends on the students, the context, and the available resources. Gifted education is complex because children are complex. A lack of a definition still cannot be an excuse for not taking the time to unpack those complexities and work to find the best solutions for our students. As a gifted specialist, my hope for this study is to identify concrete steps teachers can take to make a better learning environment for their students identified as gifted. I believe it is possible to create a classroom culture that allows all students to develop their talents. The three artifacts that follow is my attempt at unraveling the complexities to create an environment to challenge, support, and motivate gifted students in middle school honors classrooms.

Artifact 1 looks to honors colleges to see how they academically challenge while supporting the social-emotional needs of high-achievers on campus from three top honors colleges. Artifact 2 highlights key findings from collaboration between gifted specialists and honors teachers in what they perceive should be top priorities to support students identified as gifted in an honors setting. Artifact 3 outlines a professional development created based on results of the collaboration. My goal is to help general education teachers understand the complexities of gifted education and most importantly understand that there is not a one-size-fits-all approach to gifted education. It is essential to rely on teachers' perceptions when deciding on top priorities to ensure teachers have the confidence to explore right alongside their insatiably curious students. It starts by collaboratively deciding what social-emotional and academic priorities should be held to best motivate adolescents identified as gifted in their classrooms.

Definition of Terms

Achievement Orientation Model: A model developed that explains what factors motivate students and helps identify why factor is missing or underdeveloped in gifted underachievers. The triple Venn diagram used in the model has three overlapping factors: task valuation, environmental perception, and self-efficacy (Siegle and McCoach, 2005).

Asynchronous Development: Often present in individuals identified as gifted, "in which advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm" (Columbus Group, 1991, p. 8).

Gifted Pedagogy: Strategies teachers use to support gifted education. Strategies help teachers identify students' interests, approaches for enhancing curriculum, differentiation techniques, and tactics for addressing talent development. (Burns, Gubbins, Reis, Westberg, Dinnocenti, & Tieso, 2004).

Honors Classrooms: Content based classrooms geared to students identified as gifted and/or high achieving.

Priorities: Teaching strategies that should be held in higher regard when planning and enacting curriculum.

Talent Development Model: Model of gifted education that assumes “giftedness is multifaceted, domain-specific, developmental, observable through achievement, influenced by a variety of psychosocial factors, and vulnerable to loss if neglected” (Talent Development Task Force, 2015, p. 5).

Artifact 1: Problem of Practice Analysis

Gifted education has had a place in United States public schools since the early 1990’s, and yet the importance of the field continues to come under scrutiny. The first school for gifted students opened in Massachusetts in 1901, quickly followed by Lewis Terman, The Father of Gifted Education, publishing the Stanford-Binet test to allow schools to assess student’s generalized intelligence (UNCW, 2005). Terman’s findings on gifted students concluded gifted students were, (a) qualitatively different in school, (b) slightly better physically and emotionally in comparison to normal students, (c) superior in academic subjects than peers, (d) emotionally stable, (e) most successful when education and family values were held in high regard by the family, and (f) have a high variability of traits between the 1,500 gifted students who participated in the longitudinal study (Terman, 1925). The “Mother of Gifted Education”, Leta Stetter Hollingworth, soon followed publishing the first textbook in gifted education called *Gifted Child: Their Nature and Nurture* (1926) that focuses on the special needs of gifted students. While knowledge of these unique students grew, so did the skepticism.

Skepticism and contempt for gifted programs has followed the field since it began. Tannenbaum (1998) reported major charges against gifted education includes “(a) fostering elitism in schools by singling out the gifted for quality education, (b) the naïve and prejudicial ways of testing for giftedness, (c) the inequity and inadequacy of ability grouping, (d) the fallacy of current practices that allows out-of-content mind training exercise to serve as curriculum enrichment, and (e) the failure of programs for the gifted to influence programs for non-gifted” (p. 3). Many of those prejudices continue today as some states such as New York are choosing to eliminate gifted and talented programs in efforts to end “a program that critics said entrenched racial divides in the nation’s largest public school system” (NBC New York, 2021). While arguments on elitism continue, one thing stays the same—students identified as gifted are still kids and all kids deserve the opportunity to reach their full potential.

Today’s researchers and practitioners in gifted education are working to create inclusive programs to academically engage high potential students while supporting unique social and emotional needs of these learners. Paradigm shifts in the past hundred years of gifted education have painted a more dynamic, contextual, and emergent picture of students identified as gifted (Dai, 2010). Identification practices no longer focus solely on general education scores but rather help students identify and strengthen different areas. The national definition of gifted and talented states, “students, children, or youth who give evidence of high achievement capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields” (USCODE, 2021, sec. 27). Research into social-emotional needs of gifted students continues to develop as schools throughout the United States work to create equitable programs that meets the needs of gifted learners while being flexible enough to meet the needs of the students, teachers, the schedule, and the budget.

The State of the States in Gifted Education (NAGC & CSDPG, 2015) is a biennial report that was generated by the National Association of Gifted Children and the Council of State Directors of Programs for the Gifted. The report gave readers, “a glimpse into a system where many high ability and high-achieving learners must fend for themselves, leaving success to chance” (NAGC & CSDPG, 2015, p. 8). The 2014-2015 version reported responses from 42 states. Only 32 states held active mandates for their gifted learners and, outrageously, 8 of those states did not provide any financial support from the state level. Results from the 2018-2019 report contrast previous findings in reporting only 24 states held active mandates and only 1 state, Georgia, reported being fully funded (NAGC & CSDPG, 2019). The report clarifies that data was collected during COVID-19, which could be the cause of some states asking for extensions and/or not completing the questionnaire. Wai and Worrell (2017) reported that out of the \$59.8 billion federal education budget of 2015, one dollar was spent on gifted education for every \$500,000 spent on everything else. Benbow and Stanley (1996) reported the low number has remained close to zero for at least the past two decades. Local school districts are forced to dig into their already shallow pockets to fund programs for their most advanced students relying on grants and local citizen’s tax dollars.

Gifted programs in Arizona are on par with the rest of the nation regarding funding and mandates. Arizona schools are required to provide gifted services though unclear expectations lead to a wide variety in types, and effectiveness, of programs. The Arizona Department of Education does have a statutory formula used to allocate partial, supplemental funds to school districts:

School districts that comply with section 15-779.01 and that submit evidence that all district teachers who have primary responsibility for teaching gifted pupils have obtained or

are working toward obtaining the appropriate certification endorsement as required by the state board of education may apply to the department of education for additional funding for gifted programs equal to seventy five dollars per pupil for four per cent of the district's student count, or two thousand dollars, whichever is more (Arizona Department of Education, 2007, p. 3).

In 2019, the state of Arizona approved a grant for \$1,000,000 from which these funds are taken. The allocation formula adjusts each year to match the funds available. For the 2018-2019 school year, the per pupil amount dropped to \$19.38 (ADE, 2020). While gifted students in Arizona are lucky to have at least partial funding supporting their unique learning needs, \$1,000,000 is not enough to best serve our gifted population across the entire state. The inequity is astounding especially in comparison to the \$420 million in state add-on funding provided for Special Education services in 2017 (Mannelly, 2018). The needs of gifted students are not clear to those setting budgets for gifted education. Why should our state's brightest minds consent to creep when they have the intellectual ability to soar?

Teachers of Gifted Students

Teachers trained in gifted education foster high-level thinking and place a greater emphasis on creativity in the classroom than non-trained teachers (Hansen & Feldhusen, 1994). Gifted training for teacher education undergraduate students has also led to teachers developing a positive attitude towards the label of gifted and success in differentiation activities and assessments (Johnsen, 2004). Unfortunately, training in gifted education is typically not a priority, requirement, or even option for teachers.

Most new teachers receive little to no instruction on how best to academically challenge and support the social-emotional idiosyncrasies of a student identified as gifted (Clinkenbeard &

Kolloff, 2001, Hansen & Feldhusen, 1994). Content may be skimmed over briefly in a chapter during an Introduction to Special Needs course. Olthouse (2014) reported that preservice teachers tend to perceive giftedness as generalized, identified solely by achievement, and characterized by rapid speed of learning rather than abstract and complex thinking. Proper teacher training could help eliminate the more traditionalist, outdated perception of gifted education.

The National Association of Gifted Students' Talent Development Task Force identified five traditional misconceptions of gifted education in the Report to the Board Directors (2015). The misconceptions include: 1) viewing giftedness as innate, 2) easily identified through a cognitive assessment such as an IQ test, 3) based on general-intelligence, 4) fixed, and 5) produced, "morally superior and more sensitive" children (p. 4). More modern theories have roots in the past but have been updated to reflect a newer and more complex view of giftedness.

The Talent Development (TD) framework currently dominates the field of gifted education. Talent Development is supported by theories such as Howard Gardner's Multiple Intelligences (1983) that concludes intelligence is domain specific. National Association for Gifted Children's program standards reflect the more modern take on gifted education (NAGC, 2015). Key differences between traditional and modern views include viewing giftedness as developmental, involving both academic and social-emotional needs, and domain specific.

Viewing giftedness as developmental as opposed to fixed has implications on instruction of gifted students. Rather than one IQ test, giftedness must be identified in the domain that matches each student's domain of giftedness. Students' development of their giftedness will vary based on the social-emotional support received at home, in school, and in the community (NAGC, 2015). For example, a student whose area of giftedness is visual-spatial should be given

ample opportunities to develop the talent at home and at school. Outdated traditionalists may choose to spend time on an area less developed rather than focusing on student's strengths. It is important teachers are aware of the shifts in priorities as gifted education continues to shake the more traditional ideas and move towards a more inclusive and dynamic framework.

Common Solutions to Middle School Gifted Programming

Gifted education looks different at each grade level and school district. Elementary students identified as gifted may be in self-contained gifted schools, participate in a pull-out program with a gifted specialist, or—most often—remain in their classroom with the burden of differentiation placed on the teacher (NAGC, 2015). High schools boast Advanced Placement (AP) courses, opportunities for dual enrollment, and International Baccalaureate (IB) programs as options for their gifted clientele (Lupkowski-Shoplik, Behrens, Assouline, 2018). Options for middle school gifted programs are a bit more ambiguous.

Middle school educators looking to incorporate a successful gifted program have interesting hurdles. Gifted adolescents, and their parents, expect the same nurturing behaviors from teachers as in elementary school while offering a course catalogue the size of a high school's. The National Association for Gifted Children and the Council of State Directors of Programs for the Gifted reported that in 2015 most participating states reported honors courses as the most frequently used method of providing gifted services. While middle schools around the United States continue to adopt honors programs to meet the needs of gifted learners, research is necessary to understand what components are necessary to create a successful, motivating, and comprehensive honors programs.

Honors Programs

In 2010, indirect research identified key differences between middle school and collegiate honors programs and students. The survey included a population of 40 middle school teachers and 304 adolescents and results were compared to the vast amount of literature on college honors programs. Testa (2010) found that most students and teachers appreciated the honors program because of the additional challenges offered, which mirrored a benefit most college age honors students voiced. The major difference between the two was the social-emotional aspect of what teachers perceived as an ideal honors student and the reality.

A Likert scale was used for teachers and students to rate honors students' characteristics. Teachers perceived an ideal honors student as being highly motivated, high performing, quick learners, helpful, willing to struggle, intrinsically motivated to learn, able to stay on task and meet deadlines, hardworking, competitive, creative, organized, considerate, responsible, cooperative, and intrinsically motivated. Testa (2010) then asked honors and non-honors teachers to rate their current honors students. The reality was honors students were lacking "superior characteristics" (p. 23) that teachers expected—especially the cooperative nature of students. Teachers perceived honors students as being above average at cooperation whereas both honors and non-honors middle school students rated the typical honors student as being average. The researcher concluded that while the expectations of honors programs are similar between college and middle school, middle school honors students need additional support socially and emotionally to reach the set expectations.

Because of the similar perspectives of benefits between honors at a college level and middle school level, a literary analysis was conducted to determine patterns of offerings in college honors settings. Three honors colleges were selected because of their top rankings and

variety of strengths, in particular: financial aid options, class size, types of honors courses, and extra curriculum opportunities for students. The three honors colleges selected for the purpose of this research were among six recognized in Inside Honors 2020-2021 (Public University Honors, 2021).

Barrett Honors College (BHC) from University of Arizona consistently ranks among top honors colleges in the United States. It spans across four campuses including the flagship in Tempe, Arizona. Barrett boasts small class sizes, study abroad opportunities, active advisors, and housing specifically for honors students. Honors residential facilities include additional libraries and lounges for activities and study sessions. A sequence of honors classes challenges students to view challenges from multiple perspectives and engage in critical thinking. Graduates of Barrett Honors College leave with increased social connections and an impressive college transcript to jump start a fruitful career.

Macaulay Honors College (MHC) was named “Best Bang for Your Buck” according to PrepScholar.com because of the multiple financial aid packages available (Robinson, 2021). Macaulay is associated with City University of New York and uses the city as a key feature in its honors curriculum. It is a highly selective school and appeals to many liberal arts majors because of the cultural perks provided. A “Cultural Passport” is provided to students to visit hundreds of cultural institutions in New York City. The program’s website reports 87% of honors students’ graduate debt free and 18% of students are first generation college students (New York City Advantages, 2021). The competitive school has placed itself in a position to create new, culturally sensitive leaders using the diversity of New York City as an authentic learning lab.

Pennsylvania State University is ranked as a top research institution and the honors college, Schreyer Honors College (SHC), carries on the tradition (Best College Reviews, 2021).

Small class sizes provide individualized attention and honors-only housing creates an environment of community and scholarship among SHC students. Each student engages in a self-selected honors thesis project and has opportunities to research with top academics to identify and solve problems.

Each honors college listed has different strengths, which is why the three were chosen. Barrett Honors College boasts a compressive program that prioritizes small class sizes, honors specific course sequences, and study abroad opportunities. Macaulay Honors College is a top destination for high achievers in liberal arts fields and SHC focuses on research opportunities. Macaulay Honors College also prioritizes equity with the substantial financial aid packages offered. Elements in each of these honors colleges puts theory into practice with the variety of tailored opportunities offered to high achieving students.

Purpose of the Study

The purpose of this study was to identify priorities middle school honors programs should hold to motivate gifted learners. Because of a lack of current research, a literary analysis was conducted to determine which elements are most frequently practiced in top honors colleges. Honors colleges were used because of the lack of research on programs specific to the middle school setting. While differences exist between college and middle school honors programs, it can be assumed those are settings that frequently service the gifted population. Elements from each of the three honors colleges were grouped into themes to help determine how expectations of honors programs are put into practice. Themes were prioritized, discussed, and ranked by gifted specialists and middle school honors teachers to identify what themes should take priority to best motivate the academic and social-emotional growth of gifted adolescents inside an honors classroom.

Research Questions

1. What do teachers perceive as top social-emotional priorities of gifted adolescents in a middle school honors setting?
 2. What do teachers perceive as top academic priorities for gifted adolescents in a middle school honors setting?
3. How do the priorities of honors programs differ between gifted specialists and teachers with no formal gifted training?

Review of Literature

In this section I discuss theories behind motivation in gifted learners. Since literature specific to middle school honors programs is minimum, I chose to look at the more comprehensive research behind honors colleges to find research based pedagogical practices to best support gifted learners. Differences between honors programs in college and middle school do exist; yet it can be assumed that an honors setting is where one will find gifted students. Practices of top performing honors colleges are discussed and categorized into social-emotional and academic supports. Themes and links to current gifted education research are discussed. Finally, selected themes are grounded in current theory on the motivation of gifted students.

Theoretical framework.

Middle school is a dynamic time and environment for all adolescents. The brain is undergoing drastic changes as the pre-frontal cortex of the brain, which is charged with reasoning, often lag behind emotional development (Armstrong, 2017; Siegel, 2015). The uneven development may leave adolescents more susceptible to stress than children or adults (Armstrong, 2017). While gifted adolescents undergo the same changes as their peers, there are additional hurdles. Gifted adolescents are more advanced in one or more academic areas and

have a stronger predisposition towards deductive reasoning, which leads to a “increased ability to observe themselves and to verbalize strong feelings, rather than act on them” (Rakow, 2020, p.

4). Rakow (2020) continues with,

Gifted adolescents have flashes of insight and creative surges. Their sophisticated abilities to conceptualize, seek alternatives, explore diverse relationships, and find creative ways of self-expression will be useful and fulfilling to them once they reach adulthood. But, during adolescence, these same qualities may create (rather than solve) some unique problems (p. 5).

If a student’s home or school does not adapt to developmental changes, a child could be at risk of academic underachievement. Focusing in on the needs of gifted adolescents may help the at-risk group of gifted youth better self-regulate and achieve (Siegle & McCoach, 2005).

Gifted underachievement has been a topic of research for decades but there is yet to be an agreed upon definition (Reis & McCoach, 2010). Common definitions either stress predicted achievement versus actual achievement or focus on development of potential (Reis & McCoach, 2010). Whatever the definition, gifted underachievement is a frustrating loss for students, teachers, and parents. Some teachers may place blame back on the students with accusations of laziness or bad behavior. However, a veteran teacher sees an opportunity. Siegle and McCoach’s (2005) Achievement Orientation Model (AOM) can be used as educators begin to prescribe supports necessary for gifted underachievers. The researchers identified three areas that spark motivation in learners: (1) self-efficacy (2) meaningful tasks (3) a supportive environment (See Figure 1).

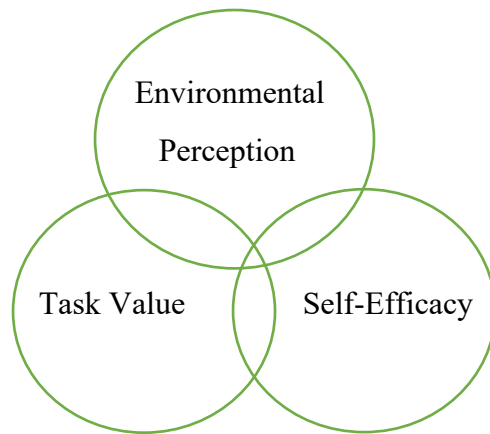


Figure 1. Achievement Orientation Model. Adapted from “Applying the Achievement Orientation Model to the Job Satisfaction of Teachers of the Gifted,” by D. Siegle, D.B. McCoach, and K. Shea, 2013, *Roeper Review*, (36)4, p. 211.

Self-efficacy is a belief that one can complete a task (Bandura, 1977). Ritchotte, Matthews, and Flowers (2014) wrote “Students with low self-efficacy are more likely to doubt their abilities and avoid engaging in tasks below their skill level” (p. 184). Students need to feel like they can successfully complete a task, or they may not be motivated to pursue new challenges and opportunities.

Siegle and McCoach (2013) identified a student’s environmental perception as critical to motivation. A student who does not perceive to have enough support from teachers, peers, parents, or others around are at risk for underachieving or not developing necessary skills to reach the student’s full potential (Ritchotte, Matthews, & Flowers, 2014). The last component of AOM is task value and has been found particularly important for gifted female underachievers (Callahan, Cunningham, & Plucker, 1994; Kramer, 1991). Students who do not find intrinsic value in an assigned task, challenge level, or even grade assignments are at high risk for underachievement. Kramer’s (1991) ethnographic study of middle class, white gifted adolescents found female underachievers attributed their success to hard work or luck but did not believe

they had the natural ability to be successful. The lack of intrinsic motivation put the gifted females more at risk for underachievement. Students who are confident enough to take on meaningful tasks in a supportive environment will be successful in self-regulation and achievement.

Siegle and McCoach's (2013) Achievement Orientation Model has similarities with other motivational theories including Deci and Ryan's (2000) Self-Determination Theory (SDL). Deci and Ryan (2000) identified three psychological needs necessary for motivation: autonomy, relatedness, and competence. Alignment between AOM and SDT can be assumed linking self-efficacy with autonomy, environmental perceptions with relatedness, and task value with competence. A key difference between the two theories is AOM was created specifically for gifted students.

Ritchotte, Matthews, and Flowers (2014) conducted research to validate the use of AOM for gifted middle school students. Researchers used surveys and student's grade point averages to determine if there was a relationship between student achievement and attitudes towards self-efficacy, meaningful tasks, and environmental perceptions. Methodical coding of 156 students showed that a large majority (76%) of underachievers held negative beliefs towards at least one area (self-efficacy, meaningful tasks, or environmental perceptions). In contrast, only 52% of achievers rated low in at least one area. The author's findings prove that underachieving and gifted middle school students were almost three times more likely to have at least one deficit in self-efficacy, task meaningfulness and/or environmental perceptions than their achieving, gifted counterparts. The authors concluded that the AOM, "may hold promise for the development of interventions to address gifted underachievement" (Ritchotte et al., 2014, p. 183).

Children identified as gifted are most at risk of underachievement during adolescence (Seeley, 2004). Adolescents face added academic and social pressures placed upon them by parents, teachers, and peers. For example, a student with advanced verbal ability may appear older than his/her/their chronological age or a mathematically gifted student may be placed in an advanced course and expected to behave as his/her/their older classmates. Asynchronous development leaves adolescents particularly vulnerable across social, emotional, and academic domains (Bailey, 2011). As Seeley (2004) noted “The imposition of external standards combined with the normal adolescent needs for separation and search for identity may result in stress and alienation expressed in underachievement, antisocial behavior, or indifference” (p. 4). Therefore, tending to the unique social-emotional needs of gifted adolescents is crucial to provide the best opportunities for our most creative, complex, and bright minds.

Gifted underachievement is a frustrating loss for students, teachers, parents, and communities. Adolescence is a risk factor for underachievement because of social and biological transitions taking place. The following will share common themes among top honors colleges, qualitative investigations on gifted student’s perceptions, and current literature to help identify strategies that should be prioritized to prevent gifted underachievement by increasing gifted adolescents’ self-efficacy, task meaningfulness, and environmental perceptions in an honors classroom.

Social-emotional priorities.

Researchers have shown that gifted adolescents experience the world from a different perspective. Gifted adolescents have unique social, intellectual, and emotional characteristics that highlight how not only gifted youth think differently but they also experience the world differently (Sword, 2001). Dabrowski and Piechowski (1977) categorized intensities that are

more prevalent in gifted learners than the general population. Gifted learners may experience psychomotor overexcitabilities (OE) marked by a higher capacity for being active and energetic. Sensual OE leads to a heightened pleasure or displeasure from sights, smells, touch, taste, or hearing. Intellectual OE causes a strong desire to seek understanding, truth, to gain knowledge, and to analyze and synthesize their world. Lastly, gifted students have shown heightened imaginal intensities. Asynchronous development and intensities such as these may lead to internal discomfort, inner conflict, and feelings of insecurity.

As adolescents begin looking towards their peers while developing their social and academic identity, a heightened awareness and understanding of their differences may lead to further emotional distress (Dockery, 2005; Gross, 2002; Silverman, 1993). It is important for teachers to understand the complexity of a gifted student's internal conflict and nurture, encourage, and provide intellectual stimulation to help our students create a positive self-identity. The literature explored suggested two major themes supported by research and enacted by top honors colleges to help gifted students' affective development—homogeneous grouping and active mentors.

Homogeneous grouping.

Homogeneous grouping is a topic of contention among educators. Gifted educators have long advocated for clustering gifted students together for instruction, but it frequently does not occur because of the lack of administrator support or teacher buy-in (Brulles, Saunders, & Cohn, 2010). There has been research on both sides arguing that homogeneous grouping—grouping like-ability students together—benefits students academically because they will receive content at their level while others argue homogenous grouping hurts low level learners because they do not have adequate role models in the classroom. Collins and Gan (2013) conducted a

longitudinal study with more than 9,000 participants and conclusively reported that students homogeneously grouped by achievement outperform students in a heterogeneously grouped classroom. This section explores literature on gifted students' perceptions, common practices at top honors colleges, and quantitative findings to determine if homogeneous grouping would be best for middle school honors students.

Hebert and McBee's (2007) qualitative study explored the experiences of gifted undergraduate students enrolled in an honors program. A common theme presented by the students was the feeling of isolation the gifted students experienced in elementary and middle school. The feelings were a result of the differences between the gifted students and their peers in terms of goals, values, and intellectual ability. One particular student shared feelings on how others perceived her motivation and deep love of learning

I wanted other people to love it as much as I did, and to encourage me to love it, and then shepherd me through what it was like to love it and be able to share that enthusiasm that I had. It didn't happen. It didn't happen. There was nobody who loved it like I did. It was very frustrating. I felt alone (Hebert & McBee, 2007, p. 142).

Similar findings were reported by Lee, Olszewski-Kubilius, and Turner Thompson (2012). The authors surveyed 1,526 gifted adolescents on their perceptions of interpersonal confidence and peer relationships. Multiple students expressed positive perceptions of homogenous grouping that took place in the summer Talent Development Program and wished it was a similar structure at the student's home school. Further investigations into student perceptions found that most students perceived homogeneous grouping more positively regarding academic outcomes but had mixed feelings about how similar ability grouping supported their social needs (Adams-Byers, Squilkr Whitsell, & Moon, 2004). With multiple

perspectives held on the value of homogenous groupings, it is important to see how top honors colleges incorporate grouping techniques to best serve their gifted students.

Barrett Honors College, MHC, and SHC all offer housing specifically for honors students. Living, working, and playing with students who hold similar interests is clearly a priority for these top collegiate honors colleges. Barrett boasts a packed schedule of social events specifically for honors students to engage with one another along with multiple lounge and library areas that are built into honors college dormitories (Student Life, 2021). Macaulay Honors College expands on the feeling of community from a broader lens with their “City Seminar” classes. Honors students at MHC take four interdisciplinary classes in their first semester to deepen their understanding of the people, culture, history, and institutions of New York (Macaulay Seminars, 2021). Surrounding high achieving students with like-minded peers is a main priority for collegiate honors programs to challenge one another as well as build a support system both inside and outside of the classroom.

Barrett Honors College offers specific courses to help students successfully develop their identity in the safety of a supportive environment. To provide the depth and complexity gifted students crave, BHC offers unique and relevant courses offered only to honors students. Covid-19 led to courses such as “Art Journaling and Mindfulness”, “Critical Thinking for Critical Times – Data Modeling and Covid-19”, and “Economic Uncertainties of Covid 19”. Homogeneous grouping for these classes are what makes them successful (ASU Course Catalogue, 2021). Students who have been identified as gifted can share thoughts, feelings, and predictions with one another without the fear of being ostracized or isolated. Students can tend to their social-emotional needs in a supportive environment while working through complex, relevant content with like-minded peers.

Based on the academic literature, homogeneous grouping based on achievement is a best practice for academically challenging gifted individuals. However, gifted adolescents have reported preferring heterogeneous grouping for social purposes (Adams-Byers, Whitsell, & Moon, 2004). Gifted adolescents in middle school have heterogeneously grouped electives, passing periods, and lunch to enjoy the social benefits of being in a mixed ability setting. Honors courses in a middle school should be structured to academically challenge gifted students while providing cooperative learning opportunities, opportunities to engage in abstract thinking, and the ability to creatively solve problems just as top honors colleges provide to their students.

Active mentors.

Students identified as gifted benefit from mentors in their lives to motivate and support them in their rigorous academic endeavors. Honors colleges make academic mentorship a top priority for the high ability scholars. An active and supportive mentor becomes even more important when high ability students have additional obstacles such as being twice exceptional.

Mentors for gifted students is not a new idea. Benjamin Bloom (1985) discussed the idea in his groundbreaking book, *Developing Talent in Young People*. Bloom interviewed 120 talented individuals in hopes of finding common shared themes. A similarity all gifted and talented participants shared was active role models. An active and supportive mentor is even more pertinent for twice exceptional students. Ronksley-Pavia, Grootenboer, & Pendergast (2019) shared experiences of twice exceptional students through qualitative interviews. The authors reported twice exceptional students often saw themselves, and perceived others did as well, through the lens of disability. Without an active mentor, twice exceptional students may not find the motivation, direction, or potentially interests to allow the individual to succeed.

Providing active mentors who are specifically trained in gifted education will create and maintain a supportive environment which is necessary for the motivation of a gifted adolescent.

Barrett Honors College, MHC, and SHC each provide individualized mentorship through academic advising. Each student within the three Honors programs discussed has advisers to help guide, support, and mentor the student. Barrett Honors College provides each honors student three advisors in what they have called the “three-pronged approach” (Advising and Requirements, 2021). A Barrett honors advisor helps guide students through the honors program’s processes and expectations. A staff advisor in the student’s major support the student through the completion of each program of study, and a faculty honors advisor mentors each student in research opportunities, at professional conferences, and in preparing for graduate school.

Macaulay Honors College provides mentorship in the form of academic advising and alumni mentorship opportunities. Advisors help guide and support students while choosing academic paths, applying for graduate school, and completing an honors thesis. The Macaulay Advisors on Campus (2021) website describes relationships between students and advisors as, “ongoing, collaborative relationships that challenge and support students”. The Macaulay Mentors Program (2021) helps students build professional networks through mentoring with a Macaulay alumnus. Job shadowing, interview preparation, and general career guidance are provided to students through curated partnerships.

Along with BHC and MHC, Schreyer Honors College provides mentors to help guide students to academic and professional success (Honors Advising, 2021). Advisors in the student’s field of interest help make the path to professional success clearer to students, no

matter the student's background. Providing active supports and mentors to all students helps to ensure equality among students on their path to developing their talents.

Instructional supports.

The affective supports discussed help students feel comfortable in their environment and build student's self-efficacy. Instructional supports support students' self-efficacy but play a larger role in the third variable of the AOM: task valuation. It is easy to say that students will value their schoolwork more if it is interesting to them. Unfortunately, goal valuation is often overlooked in education (Brigandi, Siegle, Winer, Gunnins & Little, 2016). This section will explore the common themes found regarding instructional supports and how the Enrichment Triad Model (Renzulli & Reis, 2010) can be used to increase goal valuation and build self-efficacy in gifted middle school students.

The Enrichment Triad Model (ETM) has more than 15 years of research and field testing supporting its use in gifted education (Renzulli & Reis, 1994). Rather than curriculum acceleration, ETM focused on enriching students and providing meaningful activities differentiated to meet the needs and interest of learners. There are three tiers of enrichment in ETM (see Figure 2). The goal of tier one is general exploration. Guest speakers, field trips, demonstration, and interest centers can all be implemented to meet tier one enrichment requirements. Tier two focuses on instructional practices designed to promote complex and divergent thinking in students. Students learn and practice how to use creative and divergent thinking to problem solve while practicing communication, research processes, and how to use advanced reference materials. Highly motivated students advance to tier three and use the learned skills to develop an in-depth project based on their interests and desire to pursue an advanced level of study. In this section I discuss how common instructional themes in gifted

education support both ETM and AOM while focusing on courses and strategies top honors colleges have implemented to best support their gifted learners.

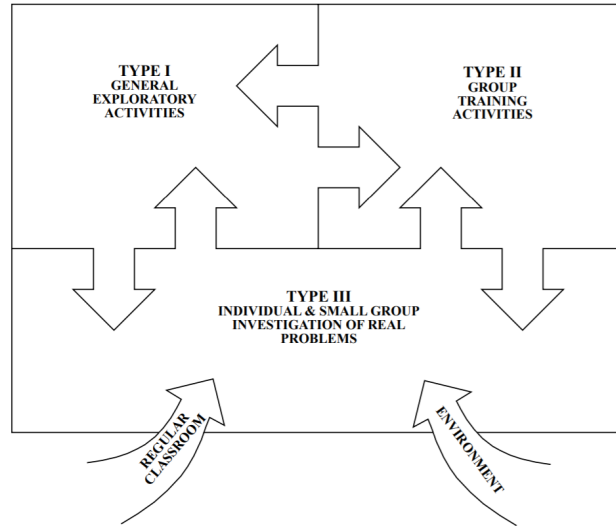


Figure 2. The Enrichment Triad Model. Adapted from “An Overview of the Enrichment Triad Model,” by The National Research Center on the Gifted and Talented, 2013.

Teaching toward student strengths.

Teaching towards students’ strengths and interests is a main difference between gifted education and general education. Rather than assessing for content mastery, gifted education teachers assess to identify individual student strengths and interests. It is easy to see how tailoring content to individual interests sparks student motivation to learn. Gifted educators are in a unique, and lucky, position to work with students who are highly capable of independently understanding content at a more complex level than most peers.

Teaching towards students’ talents, strengths, interests and preferred learning styles is not a new concept in gifted education. Reis and Renzulli (2010) supported their idea in the chapter, “*The Schoolwide Enrichment Model: A Focus on Student Strengths & Interests*”. The Enrichment Triad is a main component in Reis and Renzulli’s (2010) Schoolwide Enrichment Model. Before and during enrichment activities throughout the tiers, students update their *Total*

Talent Portfolios. Teachers help students better understand their abilities, interests, and learning styles and track the information over time. The purpose of Total Talent Portfolios is to

- consistently collect data on students' strengths
- classify data based on abilities, interests, and learning styles
- periodically review and analyze data to select enrichment opportunities
- make decisions about content acceleration and enrichment in school and in later educational, personal and career decisions (Reis & Renzulli, 2010, p. 330).

Quantitative and qualitative research support the practice of teaching towards student strengths in gifted education. Higher growth in reading comprehension ($p < .001$), oral reading fluency ($p = .016$), and social studies achievement ($p = 0.013$) was shown in a study of 383 elementary and middle school students comparing students who received interest based enrichment to a control group (Field, 2010). Qualitative research has shown Type III enrichment has led to higher goal valuation in secondary students (Brigandi et al., 2016). Students whose Type III enrichment project matched their strengths, interests, and preferred learning styles stayed more motivated and perceived learning as more enjoyable than those whose strengths did not match their project (Brigandi et al., 2016). With common sense and empirical data supporting teaching towards student strengths, we turn towards college honors programs to see how to best implement the strategy.

Barrett Honors College provides opportunities for type I, II, and III enrichment. All students are provided opportunities for type I enrichment in the form of lecture series. The BHC website shares the purpose of the lecture series is to, “enlighten and expose students to a plethora of specialty topics” (Honors Lecture Series, n.d.). Type II enrichment comes in the form of signature courses and honors courses. Two signature courses are required for honors students.

The Human Event is taken freshmen year and *History of Ideas* is taken later. All Barrett honors students are required to complete a research or creative focus project that serves as type III enrichment. Mentorship is available during a student's project and each spring the projects are celebrated.

Macaulay Honors College relies on lecture series for type I enrichment but also offers all students a "NYC Cultural Passport". The passport allows students free admission to cultural institutions around New York City with the goal of, "expanding their awareness of the diverse cultural life of the city with institutions that focus on history, science, culture, and the arts" (NYC Cultural Passport, n.d.). Seminar courses focusing on research, classroom, and hands-on learning serve as type II enrichment while Scholars program provide opportunities for students to engage in type III enrichment. Two scholar's programs mentioned on the MHC website include the William R. Kenan Scholars program dedicated to students who are committed to public service and the Goldsmith Scholars Program which helps students prepare and apply for graduate school.

Schreyer Honors College also provides a lecture series for type I enrichment and honors specific courses for type II enrichment. There are a variety of type III enrichment opportunities. All students are required to complete an undergraduate honors thesis that may be anything from a laboratory experiment to an "artistic creation" (Honors Thesis, n.d.). Because of the research focus of the university, there are additional research opportunities promoted with the goal of honors students presenting their research at conferences in front of authentic audiences. Within each of the college honors programs discussed, all had multiple options for enrichment for students to find something that matches their strengths and interests.

Empirical evidence, data-driven pedagogies, and practice support teaching towards student strengths in gifted education. Teachers teach students how to identify and track strengths and interests in their Total Talent Portfolio in Reis and Renzulli's (2004) School Wide Enrichment Triad. Successful honors colleges offer various levels of enrichment to guide students into becoming creative producers. It is especially important for teachers in gifted education to provide engaging and meaningful tasks to motivate some of the most creative minds.

Promoting creativity.

Agreeing on a definition and means of measuring creativity has been challenging researchers for years (Guilford, 1950; Karpova, Marcketti, & Barker, 2011; Sali, 2019). However, its importance is evident based on requirements of success published by the National Association for Gifted Children (2019), National Science Foundation (2006), and National Education Association (2002). This section explores common definitions and practices involving teaching creativity in gifted education before turning to top collegiate honors courses in the nation to see how they implement these best practices.

Public education is synonymous to standardized tests which makes defining and measuring creativity in classrooms ironically difficult. Multiple choice tests actively prevent creative students from showing what they want to show—their creativity (Guilford, 1950). Based on Guilford's (1950) early findings on unlocking creative potential by identifying and practicing eight specified factors, researchers are gaining ground in the hunt for consensus on a definition of creativity.

The most widely used tool used to assess creativity in education and the workforce today is the Torrance Test of Creative Thinking (TTCT) (Karpova et al., 2011). Paul Torrance's (1994)

definition of creativity was the process of creating ideas or assumptions, testing, and evaluating results. Today, the TTCT assesses the creativity of individuals by tracking four factors: fluency, flexibility, originality, and elaboration (Brigandi, 2019). With a means of assessment and the knowledge that creative production extends well beyond intelligence, we look to top rated honors colleges to see how creativity is promoted.

The literature showed that colleges have successfully promoted creativity through short, creative exercise as well as integrated within content. Karpova et al. (2011) used TTCT to quantitatively prove creativity can be improved through short, preplanned modules taught by four untrained professors in five different classes. Four out of five classes showed significant improvement in creativity while all students showed improvement. An example activity titled “Bug Report” required students to:

... note everything that irritates or “bugs” them when people design, make, sell, select, buy, wear, store, care for, or dispose of garments and accessories. Students then brainstormed, initially alone and then in small groups, possible solutions to the identified bugs. This exercise encouraged students to draw on personal knowledge and experiences to identify problems and then generate and develop ideas to innovatively solve these problems (Karpova et al., 2011,p. 55).

The honors colleges explored took a different route by embedding creativity practice into enriched, interdisciplinary courses. Arizona State’s Bartlett Honors College offered “Classic Interdisciplinary Honors Courses” such as “Migration Stories” and “Science and Social Worlds: Mars and the Moon” (ASU, 2020). City College offers similar courses on complex issues such as “Issues in Medical Ethics” and “Science and Society”. Other courses offered at CUNY provide opportunities for students to dig into relevant, controversial topics while creating and sharing

their own opinions through various media. Courses such as “Detecting Bullshit: Practice Findings and Analyzing Senseless Claims” teaches students to test and analyze results of ideas and assumptions while classes like “Digital Storytelling and Media Production: The CUNY Film Festival” provide students the opportunity to create and assess their own, innovative ideas.

The Integrated Curriculum Model (VanTassel-Baska, 2003) supports the pedagogy of embedding creativity practice into rigorous content for high achieving students. The Integrated Curriculum Model (ICM) was developed through the William & Mary School of Education’s Center for Gifted Education. Rather than teaching creativity in isolation, ICM embeds opportunities for creativity practice through rigorous, content specific curriculum (see Table 1). One major theme in ICM is teaching through concepts, issues, themes, and dimensions (See Figure 3). Honors college’s interdisciplinary approach to courses provides the structure, affective supports, and environment to combat gifted underachievement while transitioning students from Type II to Type III enrichment. Mirroring the same practice could prove to be even more successful with middle schoolers than undergraduates.

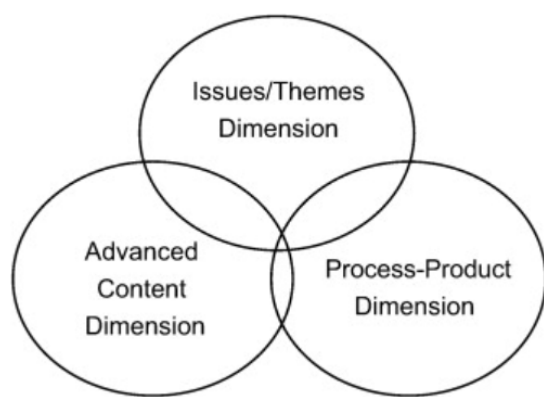


Figure 3. Teaching Through Concepts, Issues, Themes, and Dimensions. From “The Integrated Curriculum Model (ICM)” by J. VanTassel-Baska and S. Wood, 2010, *Learning and Individual Differences*, 20(4), p. 347.

Adolescence is a notoriously interesting developmental time. Middle school students increasingly look towards their peers for acceptance and are beginning to reason more abstractly (Inhelder & Piaget, 1958). With development of creative capacity primarily taking place during adolescents (Rothenbuerg, 2016), gifted middle school students need opportunities to learn, practice, and assess their creative ideas. Gifted students who show signs of the common characteristic of an intellectual intensity often show deep curiosity, theoretical thinking, and a love of problem solving (Dabrowski & Piechowski, 1977). Teachers trained in gifted education can use adolescents and gifted characteristics to their advantage by embedding creative problem solving into rigorous content to prevent gifted underachievement.

Engage in open inquiry.

A clear similarity between all college honors programs was the requirement of completing a final, student driven project. Renzulli (2002) would label it as Tier III enrichment. Advanced projects allow students for gifted students to explore topics of interest to them beyond the school setting and provide firsthand, scholarly techniques students will continue to use well into the future.

Manashri Bhor (2020) reflected on skills learned in the article titled “Advanced Research Projects and their Benefits to Gifted Secondary Students”. Bhor (2020) credited her sustained, rigorous, open inquiry project for helping develop skills such as time management, note taking, task completion, and learning how to ask for help. Soft skills such as these are often taught and practiced in general education classrooms. However, teachers can use common personality traits of gifted youth to engage them in a process of self-discovery. Students identified as gifted often hold a longer attention span, keen power of abstraction, intellectual curiosity, diverse interests and abilities, and a love of learning (Clark, 2008). Teachers trained to take advantage of

intellectual characteristics of gifted youth can and should use the traits to their advantage and engage students in open inquiry.

Banchi and Bell’s (2008) continuum of inquiry clarifies the definition of open inquiry (Table 1). Basic inquiry begins at Confirmation Stage. Teachers prepare questions and procedures students to follow to reach a predetermined solution. Teachers may need to use the continuum to teach, model, and guide students on their journey to open inquiry. In gifted education, time must be allocated for open inquiry for students to dig into their strengths and abilities while learning necessary soft skills in a supportive environment.

Table 1. Continuum of Inquiry.

Inquiry Level	Question	Procedure	Solution
1 - Confirmation Inquiry <i>Students confirm a principle through an activity when the results are known in advance.</i>	X	X	X
2 - Structured Inquiry <i>Students investigate a teacher-presented question through a prescribed procedure.</i>	X	X	
3 - Guided Inquiry <i>Students investigate a teacher-presented question using student designed/selected procedures</i>	X		
4 - Open Inquiry <i>Students investigate questions that are student formulated through student designed/selected procedures.</i>			

Research has shown that open inquiry benefits all students whether identified as gifted or not. High School biology students engaged in open inquiry believed they were more involved in their project and experienced a greater sense of cooperation than those who participated in guided inquiry (Sadeh & Zion, 2012). A major roadblock comes from teachers’ perception of

open inquiry and the implications it may have on classroom culture. Trautmann, MaKinster, and Avery (2004) reported teachers feeling open inquiry is a “waste of time” (p. 2) and increasing student frustration due to achieving undesirable results, experiencing failure, and increasing students’ fear of the unknown. Fortunately, gifted students have the intellectual capabilities to handle, excel, and be motivated by the abstract process of open inquiry.

According to Clark (2008), students identified as gifted are insatiably curious, passionate about problem solving, able to focus for longer periods of time, and able to reason abstractly. Gifted educators who realize traits of their students can easily see that open inquiry is the perfect tool to satisfy curiosity, motivate students, and allow students to achieve at a differentiated rate. Gifted students may be better equipped to ask questions and problem solve answers than their peers. Students identified as gifted have also been shown to require less repetitive practice than their peers while learning new content. Less time learning content leaves more time for teachers to dedicate towards open inquiry.

While open inquiry is an incredibly daunting task for every classroom, gifted students’ tendencies and intellectual characteristics are specifically wired for it. Their insatiable curiosity, prolonged focus, and abstract reasoning capabilities can all be satisfied by open inquiry learning leading to high motivation and high achievement from our most capable students. Practices of the US’s top honors programs support the idea as mentorships, research opportunities, and internships are all supported and expected.

Conclusion

Gifted education appears to be a low priority in public education today. Meager funding, insufficient teacher training, and unclear mandates have created abstract programs within

schools. Luckily, researchers have developed prominent theories for gifted education to promote motivation and increase creativity among gifted students.

Academic literature, student perspectives, and practices of top honors colleges revealed five main themes: (a) homogenous grouping, (b) mentorship, (c) teaching to student’s strengths, (d) promoting creativity, and (d) providing time for open inquiry. Each major theme discovered helps support at least one domain in the Achievement Orientation Model (see Table 2).

Providing mentors, teaching towards strengths, and including open inquiry build student’s self-efficacy in a supportive environment. Mentors, teaching towards student strengths, promoting creativity, and engaging in open inquiry build student’s task valuation because of the ability to explore authentic interests to satisfy insatiable curiosity. Providing homogenous grouping for academic endeavors gives students a safe classroom to take risks and assess their novel, creative ideas.

Table 2. Priorities and Their Role In AOM.

	Self-Efficacy	Task Valuation	Environment
Homogeneous Grouping			X
Mentors	X	X	X
Teaching Towards Strengths	X	X	
Creativity		X	X
Open Inquiry	X	X	

Gifted underachievers have unlocked potential waiting for an outlet. By providing targeted affective and instructional supports, students will be able to reach their full potential

while growing a passion for learning. It is especially true for middle school students who are at a crucial time in their development. Gifted students in classrooms deserve equitable attention. Gifted students deserve to be a classroom that motivates and inspires their love of learning. By focusing on key priorities in honors classrooms, teachers will be able to support and challenge gifted students allowing students to reach their full potential.

Artifact 2: Research Approach Narrative

Researchers in the field of gifted education have not agreed upon a coherent conceptual framework in theory or research (Ambrose, VanTassle-Baska, Coleman, & Cross, 2010). The lack of norms, cohesive expectations, standards, organization, and research efforts vary drastically (Dai, Swanson, & Cheng, 2011). The National Association for Gifted Children and the Council of State Directors of Programs for the Gifted report that 31 of 39 responding states offer honors courses to service both gifted and high achieving middle school students (grades 6-8) in their 2018-2019 State of the States in Gifted Education report (Rinn, Mun, & Hodges, 2020). Yet, researchers and educators cannot agree on what makes a successful middle school honors program. Solving that problem proves impossible if educators and researchers cannot agree on what quality gifted education looks like. For that reason, a mixed-methods Delphi approach was taken to determine what priorities middle school honors courses should hold to best support the gifted learners in their honors courses.

Research Approach

A mixed methods approach was taken to better understand what elements should be prioritized in a middle school honors classroom to best support gifted learners. Quantitative and qualitative data was collected in parallel to obtain details from each expert's group perspective and gain a complete understanding of the problem (Creswell, 2015). Quantitative data was

collected through a Likert scale and was used to rank priorities, narrow down priorities, find consensus and stability among participant's selections. The qualitative data collected allows the researcher to further explore if and how perspectives change between teachers with and without training in gifted education. Quantitative data was analyzed first; analysis of qualitative data followed. The convergent design allowed the researcher to compare the results of both data sets and make an interpretation as to whether results support or diverge (Creswell, 2015). By using quantitative data to rank order and narrow down priorities for honors courses and qualitative data for an in-depth understanding of different expert's perspectives, both the "numbers" and the "stories" behind gifted education at a middle school level were provided (Creswell, 2015).

A convergent mixed methods approach is especially useful for this problem of practice because of the documented indecisiveness in gifted education. Researchers have not agreed upon a uniform definition of "giftedness" and as Yun Dait and Chen (2003) claim it is, "inevitable that different values and priorities influence the ways we conceptualize giftedness and define the mission of gifted education" (p. 151). Cultural values and unclear pedagogical practices constructed specifically for gifted students leave gifted teachers piecing together their own working definition of what a gifted student needs to succeed (Yun Dai & Chen, 2013; Heuser, Wang & Shahid, 2017; Kaplan, 2003). Both forms of data used in combination may provide new insights and new ways to understand the problem of supporting gifted students in a middle school honors setting. The Delphi method is used in the field of gifted education to gain new insights and forecast strategies to best support gifted learners in the classroom.

Delphi methodology.

The Delphi method was introduced by the RAND Corporation and was initially used to forecast military priorities at the end of World War II (Loo, 2002; Murray & Hammons, 1995).

The technique's name has Greek mythological roots referencing a woman, the oracle of Delphi, that Greeks from all levels of society sought advice from (Barnes-Brown, 2018). Today, the Delphi method is used across military, business, medicine, and education as a tool to structure communication and forecast solutions to complex problem (Loo, 2002; Jandhyala, 2020). Four features characterize the Delphi method (Rowe and Wright, 1999):

1. Anonymity of participants to avoid groupthink and evaluate ideas based on merit rather than who proposed the idea.
2. Repetition to allow participants to reflect on their views and contrast their opinions based on the group's work.
3. Controlled feedback given after each round to inform participants of other's perspectives, check for correct interpretation of feedback from the researcher and give participants the opportunity to change their views based on feedback from other group members.
4. Statistical aggregation of group's responses for quantitative interpretation of data.

The Delphi method is well suited for gifted education because of the apparent lack of consensus among educators and researchers in the field (Hickey, 1988; Stahl & Stahl, 1991). Hinckey (1988) used the Delphi method to identify goals for an elementary education gifted program. Stahl and Stahl (1991) used the method to reach consensus between expert groups on which critical thinking programs should be adopted into a public, K-12 gifted education program. The Delphi method has been structuring collaboration across educational research for years and continues to do so (Osborne, Collins, Ratcliffe, Millar & Duschl, 2003; Manizade and Mason, 2010; Kallinger & Lichte, 2020).

Round one. The Delphi method involves three, iterative rounds of communication among experts. As suggested by Creswell (2015), Figure 4 illustrates the “flow of activities” in the

mixed methods research (p. 562). Round one (R1) began by designing the Qualtrics survey that was distributed to all participants. R1 included two open ended questions, rank ordering of five priorities for honors programs provided from literature, the opportunity to support or refute any priority, and an option to include priorities the participants believed should be included on the list to best support gifted learners in a middle school honors setting. The five major themes identified through the literature were: 1) engaging in open inquiry, 2) identifying student strengths, 3) promoting creativity, 4) homogeneous student grouping, and 5) providing active mentors for students. Participants were also asked to provide additional priorities they believed were important. Both open and closed questions were included to avoid researcher influence and to focus the Delphi method, so participants understood the question (Osborne et al., 2002; Skulmoski et al., 2007).

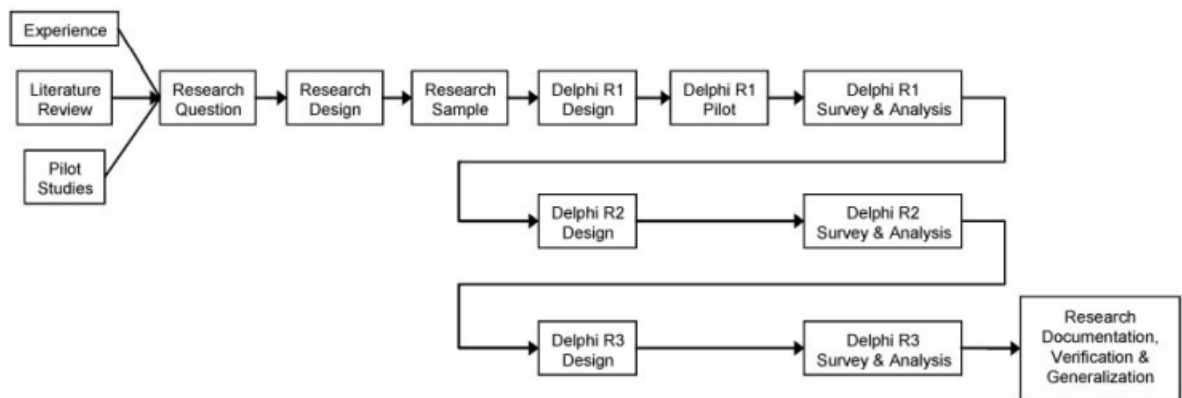


Figure 4. Three Round Delphi Process. From “The Delphi Method of Graduate Students,” by Skulmoski et al, 2007.

Participants had one week to complete the survey. The researcher then found the results mean and returned the results to each participant, individually and anonymously, to verify and comment on the researcher’s interpretation of the participants’ responses. In addition, sending the quantitative and qualitative results of R1 to participants gave opportunities for reevaluating original responses based on new perspectives shared by fellow participants. See Table 3 as to

how quantitative results were returned to participants. Qualitative statements in support or against priorities listed were provided to participants during the R1 analysis (see Table 4). Statements could be used by participants to view alternative perspectives or comment on what Crawford and Wright (2016) call, “justification errors” (p. 3). The anonymous and iterative nature of the Delphi method allows participants to freely express opinions and take away the reluctance some may feel to publicly go against bandwagon opinions (Osborne et al., 2003).

Table 3. Quantitative Results. Example of how quantitative data was summarized and communicated back to participants at the end of each round. Participants had the opportunity to change their responses based on feedback.

Your Response	Priority	Group’s Average Response
	Homogeneous Grouping	1
	Open Inquiry	2
	Identify & Teach Towards Student Strengths	3
	Opportunities for Creativity	4
	Active Mentors	5
	Opportunities for Autonomy/Student Choice	
	Ongoing Relationships with Mental Health Professional	
	Goals & Curriculum of the Class	
	Opportunities for Acceleration	
	Social-Emotional Development of High-Achievers	
	Thinking Skills with emphasis on critical thinking	

Table 4. Qualitative Results. Example of how qualitative data was summarized and communicated back to participants at the end of each round. Participants had the opportunity to change their responses or provide feedback to the researcher if they believed errors were made in analyzing the data.

Open Inquiry	
Positive	Negative
Open inquiry once again allows honors students to practice high level critical thinking skill sets with creative choice and direction on their part. These open inquiry opportunities once again help promote 21st Century thinking skills employers are looking for in the real world.	Open inquiry tends to be too loose from the times I have seen it done. It often can end with products that are less than rigorous for gifted programming. Inquiry is important, yes. But open inquiry, in my opinion, is not necessarily for every student and that is why I list it last.

	Open inquiry is great, but not all the time. Giving students some inquiry structure can help them stay on track for the learning outcomes.
--	--

Round two. The purpose of round two (R2) was to narrow down priorities and have a similar flow as R1. Participants were provided priorities listed in order of importance based on R1 responses along with anonymous comments obtained from individuals throughout R1. Participants were asked to rate the importance of each priority relative to supporting gifted students in a middle school honors classroom using a 5-point Likert scale with a score of 5 indicating participants “strongly agree” indicating it should be a main priority for an honors classroom. Participants were asked to comment, respond, or add to statements to make them in favor of or against each priority from R1. In the conclusion of round one, two selections were eliminated.

Round three. Round three (R3) maintained the flow of the Qualtrics survey followed by individual e-mails sent to participants including their responses on the 5-point Likert scale, the group’s average responses, and anonymous qualitative remarks making them in favor of or against the priorities listed. The question was adjusted to: What priorities do you believe are feasible and within the scope of an honor’s program to focus on. As rounds continue in a Delphi study, questions often become more focused to understand the boundaries of the research (Skulmoski et al., 2007). In R2, none of the 11 participants ranked any priorities under 3 (neither agree nor disagree). The researcher hoped adjusting the question to include what participants believed was fair to teachers and students to focus on what would help identify only the top priorities that should be focused on to best support gifted learners in a middle school honors classroom. It did not work that well. Teachers who were kind enough to volunteer their time appeared to agree with one another.

Participants

Selecting research participants is critical to the success of Delphi research (Skulmoski et al., 2007). The number of participants necessary for a valid Delphi study varies. Cochran (1983) stated the minimum number of participants must be 10. Rowe and Wright (2001) suggest 5 to 20 participants. At the graduate level, published Delphi studies have had the number of participants range from 3 to 171 (Skulmoski et al., 2007). For this study, 14 participants engaged in R1. Attrition occurred with 11 participants in R2 and 9 at the end of R3.

Two expert groups were utilized in this study: honors teachers within a local school district and specialists who were gifted-endorsed from their respective states. Adler and Ziglio (1996) list four “expertise” requirements participants should meet: 1) knowledge and experience with the issues under investigation; 2) capacity and willingness to participate; 3) sufficient time to participate in the research; and 4) effective communication skills. Honors teachers within the QCUSD had to have taught at least one middle school honors section within the past year and had experience with the current honors program expectations from teachers and students. Gifted specialists had to hold a gifted endorsement on their state teaching certificate from their respective state and brought experience and knowledge in about working with the gifted population of students. Round one included six honors teachers and eight gifted specialists. Round three had four honors teachers and five gifted specialists.

Access to research participants within the local school district began by soliciting permission from the Assistant Superintendent who serves as the district’s research gatekeeper (Creswell, 2015). Permission was quickly provided with appropriate paperwork completed and documentation of IRB approval. E-mails were sent to middle school principals asking permission to contact teachers before sending individual emails to teachers who qualified as experts in the

context of this study. Thirteen individuals were individually invited with six agreeing to participate in the study.

One gifted specialist came from within the district but outside sources were necessary because of the lack of qualified “experts” within the district. Purposeful snowball sampling was used to solicit participants (Creswell, 2015). The researcher contacted a former gifted teacher who reached out to current colleagues and peers listed with the North Dakota Association of Gifted Children. Twenty gifted specialists were contacted and eight agreed to participate.

Limitations and Trustworthiness

The Delphi method is not without critics; however, a large body of literature supports the usefulness of the method when well designed. Limitations include a reliance on expert opinion, researcher influence, sample size and generalization, length of the process, and participant fatigue (Murray & Hammons, 1995; Loo, 2002; Osborne et al., 2007). Murray and Hammons (1995) write that an expert’s opinion is “nearly always unconsciously biased” (p. 567). The anonymity built into the Delphi process helps overcome this obstacle. Participants may be more willing to share their true opinion without repercussions from peers, either professionally or socially, when they know their identity is not linked to answers. This study also involves participants from two geographically different locations, Arizona and North Dakota, which may help prevent individuals from determining other participant’s identities.

Throughout the Delphi process, the researcher remains at the hub. It is critical to ensure participant’s voices are analyzed correctly to ensure the result is created from expert’s opinions rather than the researcher’s beliefs. For that reason, the first round of research was semi-open. Research based priorities were provided while giving participants the opportunity to add based on their own knowledge and experience. A well-structured Delphi overcomes the limitation

because of the iterative nature. Sending individual e-mails back to participants with feedback at the end of each round ensures their opinions and comments were properly analyzed by the researcher and helps strengthen reliability.

Generalization of results is also a limitation because of a smaller sample size. Loo (2002) states that those with a strong positivist background are most likely to critic the Delphi methodology. To overcome the obstacle, substantial thought and careful selection of participants is a key factor that allows researchers to use a smaller research panel (Loo, 2002). The researcher’s choice to focus on only honors teachers in a specific school district focuses the goal of the research and supports the end goal—to create professional development opportunities to strengthen the honors program within the district. While generalization may not be perfect, the context of this research fully supports the end goal.

Participant fatigue is inevitable because of the length of the process involving multiple rounds from a variety of stakeholders. Research indicates attrition rates may be high in Delphi studies (Murray & Hammons, 1995; Skulmoski et al., 2007). Seven weeks were dedicated to this research with five expert participants dropping out. Proactive steps were taken to minimize participant fatigue. A structured timeline was presented to participants to ensure they were aware of the expectations from the beginning (see figure 4). The timeline was updated and attached to each round’s survey and feedback email.

Table 5. Updated Research Timeline Provided to Participants.

Collaborative Rounds	DATES	PARTICIPANT TASK	EST. TIME COMMITMENT
Round One	Friday, April 2nd- Sunday, April 18th	Initial Survey	20 Minutes
	Monday, April 19 th - Sunday, April 25 th	Review results and provide feedback when necessary.	10 Minutes

Round Two	Monday, April 26 th - Sunday, May 2 nd	Second Round Survey	20 Minutes
	Monday, May 3- Sunday, May 9 th	Review results & provide feedback when necessary.	10 Minutes
Round Three	Monday, May 10 th - Sunday, May 16 th	Third Round Survey	20 Minutes
	Monday, May 17 th - Sunday, May 23 rd	Review results & provide feedback when necessary.	10 Minutes

Limitations exist in all research and the Delphi method is no exception. Maintaining a transparent, well-structured approach allowed the researcher to take advantages of the benefits of the Delphi method while acknowledging the disadvantages to ensure trustworthy data:

While the Delphi designer in the context of his application may not be able to deal with, or eliminate, all these problems, it is his responsibility to recognize the degree of impact which each has on his application and to minimize any that might invalidate his exercise. The strength of Delphi is, therefore, the ability to make explicit the limitations on the design and its application. The Delphi designer who understands the philosophy of his approach and the resulting boundaries of validity is engaged in the practice of a potent communication process. The designer who applies the technique without this insight or without clarifying these boundaries for the clients or observers is engaged in the practice of mythology. (Linston & Turoff, 2002, p. 570)

Results

After three rounds of collaboration, teachers of honors courses and teachers with a background in gifted education agreed the top three priorities were: 1) critical thinking, 2) content acceleration, and 3) goals of the curriculum and class. A strength of the Delphi approach was apparent in the findings as only one of the three final selections were proposed by the researcher in the first round of collaboration illustrating that results were not influenced by the researcher. Qualitative data supported the empirical findings in the final round while differences

in opinions between the two expert groups varied especially in social-emotional support for gifted learners.

Quantitative findings.

Nine priorities were discussed in the final round of collaboration. Three of the nine had a mode of 5 (strongly agree). The same three had the highest mean when rankings of all participants were taken into consideration (Table 6).

Table 6. Quantitative Data from Final Collaborative Round.

Ranking	Priority	Mode	Mean
1 st	Critical Thinking	5	5 (Strongly Agree)
2 nd	Content Acceleration	5	4.78 (Strongly Agree)
3 rd	Goals of the Curriculum & Class	5	4.44 (Agree)

Qualitative findings.

Prior to collaboration, all participants were asked to openly address what they believed needs to be top priorities to best support gifted learners in an honors setting. Both expert groups agreed perfectionism is a top priority in the field of social emotional priorities (Table 7). There were no shared academic priorities.

Table 7. Pre-Collaboration Qualitative Data: Social Emotional Priorities.

	Honors Teachers	Shared	Gifted Specialists
Academic Priorities	Rigor	X	Pacing
	Independent Work		Student Choice
Social-Emotional Priorities	Growth Mindset	Perfectionism	Managing Emotions
	Self-Image/Identity		

The third and final round of collaboration yielded different results. Honors’ teachers did not select any social-emotional priorities but chose to focus on academic priorities. Critical thinking was a top choice in academic priorities for both expert groups (Figure 2.5).

Table 8. Qualitative Data for Final Round.

	Honors Teachers	Shared	Gifted Specialists
Academic Priorities	Goals of the Curriculum	Critical Thinking	Acceleration
Social-Emotional Priorities	X	X	Self-Image/Identity Homogeneous Collaboration

Discussion

This study aimed to identify and prioritize pedagogical practices teachers can use to motivate and support gifted adolescents in an honors setting. Research questions guiding the study were:

1. What do teachers perceive as top social-emotional priorities of gifted adolescents in a middle school honors setting?
2. What do teachers perceive as top academic priorities for gifted adolescents in a middle school honors setting?
3. How do the priorities of honors programs differ between gifted specialists and teachers with no formal gifted training?

The results of this Delphi indicate teachers of honors courses and those with a background in gifted education agreed on top priorities to best support gifted learners in an honors classroom through substantive collaboration. In response to research question one, both expert groups agreed that critical thinking is crucial to support gifted learners and can also be implemented into the honors classroom. Opportunities for acceleration is another important

priority with most of the support coming from gifted teachers. Last, establishing curriculum and class goals was an important priority for teachers of honors classes.

Two interesting findings were unveiled through the qualitative findings and can also be contextualized within previous research on the topic of misconceptions of gifted learners. The first addresses research question two. No social-emotional priorities were selected by honors teachers in the final round even though previously the participants stated perfectionism and a growth mindset were priorities that should be explicitly addressed. The second finding addresses research question three. Honors teachers prioritized providing independent work to best support gifted students academically during the initial questions. The results build on existing evidence that the needs of gifted students are often overlooked and undervalued by teachers without formal training in gifted education (Olthouse, 2014). Teachers without formal training in gifted education were aware there are unique social emotional needs of gifted learners based on responses in the pre-collaborative questions. However, the end results show they do not prioritize social emotional needs over content.

The generalizability of the results is limited because of the location of the participants and the various formats of honors programs available at a middle school level. However, other research does support the findings. A benefit of using the Delphi method comes from the structured expert groups. While honors teachers prioritized independent work, gifted teachers prioritized homogeneous collaboration in the beginning stages of the research. Both expert groups had opposing viewpoints but neither priority was selected in the final round after successful collaborations.

A big take-away from this research is to make sure teachers are aware of the unique social and emotional needs of gifted learners. The National Association of Gifted Children

(2019) references supporting students' social and emotional groups multiple times across the Gifted Programming Standards. Social and emotional learning is mentioned across all standards including learning and development (standard one), assessment (standard two), curriculum planning and instruction (standard three), learning environments (standard four), programming (standard five), and professional learning (standard six). Results from this Delphi study show that teachers without formal training in gifted education are unaware of just how important it is to explicitly teach and scaffold social and emotional learning for gifted students rather than assuming the high achievers can navigate their academics, social life, and emotional needs independently.

Artifact 3: Implementation of the Solution

The top three priorities—critical thinking, opportunities for acceleration, and goals of the class and curriculum—from the Delphi study were used to create objectives in a 45-hour professional development class for teachers in the local school district. The professional development opportunity was one of three courses offered to all teachers within the local school district. Upon completion of all three courses, teachers will meet the necessary requirements to earn a gifted endorsement from the state of Arizona. The course took a hybrid approach with most of the work taking place online.

The course was developed with andragogical pedagogy in mind with hopes of intrinsically motivating adult participants (Merriam & Bierema, 2014). Those who participated in the first round of the training predominantly worked at an accelerated school. Therefore, the activities and tasks were relevant to their current work situations, and it was made clear early on as to why it was important to learn about the three main priorities introduced. Activities were designed to be open-ended so participants could rely on their past experiences and create a unit that

was immediately able to be used in the participant's work setting. Care was taken to establish trust and a sense of community between facilitator and participants during both online and in-person sessions.

The course was designed keeping best practices of online learning in mind based on Darby and Lang (2019). In week one, students were interacting with what would end up being their final assessment to "surface backwards design" (p. 5). The same unit template was used throughout the course for participants to keep the end goal in mind and break up the cumulative assessment into smaller, mini-assignments. Each week included a short, three-to-five minute introduction video to that week's content and objectives to keep the result in mind and help participants navigate online tools. Assignments were created to foster reflection of the teacher's current classroom practices and were provided options for discussion board prompts to motivate, provide choice, and help participants make the course more meaningful for them. Collaboration was key both in person and online. Multiple opportunities were created for peer review including work on their project's final rubric and essential questions. The last part of the course focused on opportunities for acceleration and were participant-led. Participants signed up for groups and topics based on information they were most interested in just as suggested by Darby and Lang (2019).

Course objectives directly related back to the top three priorities determined because of the Delphi—critical thinking, options for acceleration, and adjusting the goals of the course and curriculum. While no social-emotional priorities were selected at the end of the study, the importance was eminent through the literature. The researcher and course facilitator decided to include some social-emotional learning throughout the course although not focus on it as a main course objective. Participants participated in lessons and activities on perfectionism,

collaborative structures, and adolescent self-identity during “warm-up” up activities for in-person sessions. The topics were selected from common themes that were brought up early in the Delphi

In the appendices are the course syllabus along with the final, cumulative assessments participants completed during the course. Participants worked independently and collaboratively throughout the course to construct a better understanding of how to challenge and support gifted students in their general education classrooms. The course has been taught once and will continue to be used, albeit modified based on feedback, while the school district works to give teachers the opportunity to earn a gifted endorsement and create a more inclusive classroom for gifted students.

Conclusion

The three artifacts—course syllabus along with the final, cumulative assessments participants completed during the course—serve as a map of my sense-making process to uncover the depth and complexity of gifted education. The aim of this research was to identify social-emotional and academic priorities teachers perceive to best support and motivate students identified as gifted in a middle school honors classroom.

Artifact one lays out hurdles in the field of gifted education including common misconceptions and practical barriers. A literary analysis of how top tier honors colleges motivate their students was used to explore how theories are put into practice.

Artifact two outlines the methodology and results of anonymous collaboration between experts in the field of gifted education and honors teachers to determine their perspective as to what academic and social-emotional pedagogical practices should be prioritized to benefit students identified as gifted. There was a stark contrast between the perception of honors

teachers and those with formal training in gifted education on the focus of social-emotional priorities.

Artifact three includes a syllabus and final unit plan template teachers used to demonstrate how they increased levels of thinking in their class's course essential questions, incorporated critical thinking opportunities, and provided opportunities for content acceleration in their heterogeneously mixed classrooms.

In the study, honors teachers did not identify social-emotional priorities as being most beneficial. However, because of the overwhelming amount of research on the unique social-emotional needs of gifted students, time was still dedicated to the topic throughout the course. Topics such as perfectionism and collaboration were explored but were not incorporated into course objectives.

This Delphi research helped predict which priorities are most beneficial in helping motivate gifted students in an honors classroom. The results led to specifically designed professional development to help teachers understand the theory and practical approach to focusing on critical thinking, content acceleration, and adapting content essential questions that require students to think with more depth and complexity. The goal was to give teachers the tools to empower gifted learners and combat misconceptions they may have unknowingly held. Students identified as gifted need and deserve support in the classroom. The three artifacts contributed to the problem as practice by providing the first steps to creating an inclusive and motivating gifted middle school program through the format of an honors program a local school district has already established.

The problem of equitable opportunities for gifted students is not solved with this one dissertation. Yet, it helps one local school district put theory into practice. Effective resources

devoted to gifted education are highly dependent on context. Using highly qualified gifted specialists along with honors teachers in the same context as those receiving the professional development may not lead to generalization of the results but does lead to in-depth prescriptive practices to make one gifted program stronger.

Anonymous collaboration between the two expert groups helped avoid groupthink and led to more accurate perceptions. Ideally, the tailored professional development will lead to higher buy-in for those honors teachers who participated in the study and may choose to earn their gifted endorsement through professional development opportunities tailored to their needs.

Future lines of inquiry and research may include student perspectives, identifying types of learning activities that foster motivation among students, contrasting the need of different content areas, and potentially tracking the progress of student success through the middle school gifted program. Gifted education will continue to be complex, but we owe it to our students to make their educational experience as motivating as possible.

APPENDICES

Appendix A Course Syllabus

Professional Development Syllabus Gifted Education: Phase 2 45 Hours

I. Course Information

Gifted Education: Phase 2
Cohort #1: 2021

The course delivery method is 80% online (asynchronous) and 20% in person during Wednesday PDs. The “rhythm” of the course is that new content will be posted on Wednesdays and due the following Wednesday.

Course Prerequisite: Foundations of Gifted Education: Phase 1

II. Facilitator

Bailey Nafziger
Email: bnafziger@qcusd.org

III. Course Description

This professional development series will cover modifying class objectives to add depth and complexity, critical thinking, methods of content acceleration, enrichment, and creativity to create environments in which gifted students can thrive.

IV. Course Goals

The purpose of phase two is to prepare K-12 teachers to respond to the needs of gifted learners across content areas. All 45 hours should be used to obtain the gifted endorsement from the Arizona Department of Education. Thirty six hours of online, asynchronous learning may be used as traditional 301 hours.

V. Learning Outcomes

Through individual readings, reflective writing, group discussions, group activities, and course assignments, you will be able to:

1. Modify objectives of the curriculum to add depth and complexity for gifted learners.
2. Increase levels of critical thinking for the student during a lesson, project, or assignment.

3. Understand and apply methods of content acceleration and classroom enrichment.

VI. Course Requirements - Major and Weekly Assignments & Grading

1. **Weekly Lessons/Activities Online:** Each discussion board and online assignment will receive a mark of either Revise & Resubmit or Pass and participation is expected. This online course requires the preparation and involvement of all members to enhance each person’s learning. Typically, there will be reading and response that you complete each week. Some weeks are coupled together to better understand the topics. These activities are NOT formal writing exercises - rather they are class participation assignments/activities. Use them to explore, question, and reflect.
2. **Gifted Education Instructional Unit:** Construction of your final project will begin during the first week of class. The major assignment will be broken up throughout the course with opportunities for feedback from instructors and peers. It is expected that feedback will be used to improve the final product. The unit will be graded as either Revise & Resubmit or Pass. To earn passing status, individuals must complete all portions with evidence of learning from class readings and discussion assignments.

VII. Grading

Each assignment will be graded as either Revise & Resubmit or Pass. Rubrics for the final product will be provided during the time of class.

Discussion Board Rubric:

Revise & Re-Submit	Pass
<ul style="list-style-type: none"> • Minimal response • Are rudimentary and superficial and there is no evidence of insight or analysis • Contributes no new ideas, connections, or applications 	<ul style="list-style-type: none"> • Posting fully addresses the topic or question • Posting is full of thought, insight, and analysis • Made connections to previous or current content or to real-life situations • Contains rich and fully developed new ideas, connections, or applications.

VIII. Late Work Policy

Late work is accepted as we are all working professionals. Verification of hours will not be completed until the final assignment and all discussion boards have been completed.

IX. Course Outline

WEEK	DATES	<u>TOPIC/ASSIGNMENTS</u>
1	9/15-9/22	<p>Read: Characteristics of Effective Teachers of Gifted Students</p> <p>Begin Part 1 of Unit</p> <ul style="list-style-type: none"> • Grade Level & Content Area ONLY <p>Discussion Board Initial Post & 1 Response Choice of Prompts:</p> <ul style="list-style-type: none"> • From the reading, what characteristics do you have that will make you an effective gifted teacher? • If you oversaw hiring a new gifted teacher, what trait would you look for in them the most? How could they prove they exhibit that trait?
2	9/22-10/6	<p>Watch: <u>Where Do Good Ideas Come From? (17:29)</u></p> <p>Read: Select 1 of 2 Providing Readings in the Week 2 Folder</p> <p>Discussion Board Initial Post & 1 Response Prompt: What grade level and content area are you are planning on creating a unit for? <i>Look for those in the same grade level/content area for you to bounce ideas off.</i></p>
3	10/13 IN PERSON 1:30-4:30	<p><u>Goals of the Curriculum</u></p> <p>In Class we will:</p> <ul style="list-style-type: none"> • Review social-emotional aspects of students identified as gifted • Conclude creative thinking objective • Determine where to place your unit in your yearly plans that will best benefit your students • Explore universal themes related to gifted education • Finish Part 1 of unit plan <ul style="list-style-type: none"> ○ Justification for Standards Addressed ○ Universal Themes
4	10/13- 10/20	<p><u>Critical Thinking</u></p> <p>Watch: <u>Critical thinking Intro (10 minutes)</u></p> <p>Read:</p> <ul style="list-style-type: none"> • <u>Teaching Students to Think Critically (Opinion)</u> <p>Explore</p> <ul style="list-style-type: none"> • https://www.criticalthinking.org • <u>Universal Themes</u>

		<p>Discussion Board Initial Post Choose one of the following prompts:</p> <ul style="list-style-type: none"> • What is a student friendly definition of critical thinking you can use when introducing them to the concept? Don't forget to post the grade level you primarily teach. • The video uses the analogy of a sponge and panning for gold. Create a new analogy for what critical thinking is and is not. <p>Complete Part 1 of Your Unit Plan</p>
5	10/20-10/27	<p><u>Critical Thinking</u></p> <p>Watch: <u>Increasing Critical Thinking with Three Questions (17 minutes)</u></p> <p>Discussion Board: Post at least two responses to the previous week's topic. Include one complement and one suggestion or clarifying question. <i>Comments on your own thread count as responses.</i></p> <p>Begin Part 2 of Unit Plan:</p> <ul style="list-style-type: none"> • Copy & Paste BT EQ's • <i>Begin</i> modifying EQ's. Try to boost essential questions up to "analyze" and "evaluate" while also keeping in mind how to assess. <ul style="list-style-type: none"> ◦ <u>Optional Resource</u> (Examples of higher order EQ's) • Linking back to universal themes. • Areas of giftedness from federal definition & multiple intelligences
6	10/27-11/3	<p><u>Critical Thinking</u></p> <p>Part 2 of Unit Plan: Rubric Rough Draft</p> <p>Optional Resources:</p> <ul style="list-style-type: none"> • <u>Rubistar</u> • <u>Bloom's Taxonomy</u> <p>Discussion Board:</p> <ul style="list-style-type: none"> • <u>One Initial Response:</u> Post a brief description of what your student's final product will be. • <u>One response to a peer's post highlighting a connection you made to their product and strategies in gifted pedagogy.</u> Think about connections to Social-emotional development, creativity, higher order thinking, student choice, etc.

7	11/3-11/10	<p><u>Critical Thinking</u></p> <p>Assignment: Comment on peer partner's rubric. Provide at least one complement & one suggestion.</p> <p>Part 2: Revise rubric based on comments.</p> <p>Optional Evaluation: Google Form Evaluation</p>
8	11/10 IN PERSON 1:30-4:30	<p><u>Critical Thinking</u></p> <ul style="list-style-type: none"> • Part 2 DUE • Review social-emotional aspects of gifted learners • Conclude critical thinking objectives • Provide feedback from part 2 • Break into groups for Gifted Education Practices participant presentations <ul style="list-style-type: none"> ○ Group created rubric.
9	11/10- 11/17	<p><u>Opportunities for Acceleration</u></p> <p>Begin Part 3: Final project/assignment description.</p> <p>Partner Work Week</p>
10	11/17- 11/24	<p><u>Opportunities for Acceleration: Participant Presentations</u></p> <ul style="list-style-type: none"> • Subject Based Acceleration
11	12/1-12/8	<p><u>Opportunities for Acceleration: Participant Presentation</u></p> <ul style="list-style-type: none"> • Curriculum Compacting
12	12/8-12/15	<p><u>Opportunities for Acceleration: Participant Presentation</u></p> <ul style="list-style-type: none"> • Whole Grade Acceleration
13	12/15- 1/5	<p><u>Opportunities for Acceleration: Participant Presentation</u></p> <ul style="list-style-type: none"> • Early Kindergarten Entrance
14	1/5-1/12	<p><u>Work Week:</u></p> <p>Complete: Final Project (parts 1-3) and finalize rubric</p> <p>Post: Final Presentation on Flipgrid</p>
15	1/12/22 <i>**No longer in person.</i>	<p><u>Peer Feedback</u></p> <p>Watch: Each person's Flipgrid video</p> <p>Reply: To <i>at least</i> four peers on the Flipgrid link</p>
16	1/19/22	<p>Submit: Final Project Part 4 (Reflection)</p>

**Appendix B
Final and Cumulative Assessments**

Final Product Unit Template

<p>Phase Two Gifted Training Final Product Designing a product to challenge your students to think critically, offer parallel curriculum, and/or practice creative thinking. Note: You are not submitting daily lesson plans.</p>	
<p><u>PART 1</u> Determining where in your curriculum to extend students' thinking.</p>	
Grade Level & Content Area	
Standards Addressed:	
<p>Justification for Standard(s):</p> <p><i>Select one reason from the list and provide at least two sentences justifying your choice</i></p>	<ul style="list-style-type: none"> Pre-Test Results Scope & Sequence Other
Universal Themes Selected:	

Notes/ideas/thoughts on student's final product (optional):

- What would work best for your class: designing a week-long project, unit, or single assignment?

PART 2

Use what you learned about critical thinking to elevate essential questions to guide your daily lesson plans.

Copy & paste given essential Question(s) from BT (if available):	
Updated essential question(s) to increase student's rigor of thinking. <i>*It may be helpful to think of "back pocket" questions to help guide your students during lessons.</i>	
Describe how you intend on linking key concepts back to the universal theme you selected in part 1.	
What areas of giftedness from the federal definition will your unit address and how? <u>Click here and scroll to #27</u>	
What multiple intelligences will your unit address and how? <u>See Link</u>	
What area of giftedness that we recognize in the QCUSD is your unit going to address and how? <u>Verbal, Quantitative, and/or Nonverbal</u>	

<p>Rubric <i>You may include on this page or submit separately.</i></p>	
---	--

<p><u>PART 3</u> Summarizing the “big picture”. You do not need to include daily lesson plans. Do your best to describe how you will include the following elements of gifted pedagogy into your lesson, unit, or project.</p>

<p>Describe your student final product.</p> <p><i>Add as much or as little detail as necessary. Readers should be able to understand the “big picture” of your unit from this section.</i></p> <p><i>You may want to refer to your elevated EQ’s to ensure they are being answered with your final project.</i></p>	
--	--

<p>Are you offering opportunities for acceleration or enrichment? Why or why not?</p> <p><i>You can summarize here or link a separate document.</i></p>	
--	--

<p>Describe how students will use their creativity in your unit.</p>	
---	--

Part 4

Final reflection. Please address the following prompts:

:

1. What feedback did you receive from your peers?
2. How did you adjust your project based on feedback?
3. Do you feel this is “do-able” in your classroom? Why or why not?
4. Is there anything else you would have liked to learn more about?

REFERENCES

- A Dedicated Resource: Honors Advising.* (n.d.). Penn State schreyer honors college. Retrieved December 15, 2020, from <https://www.shc.psu.edu/academics/advising/>
- Adams-Byers, J., Squilkr Whitsell, S., & Moon, S. M. (2004). Gifted Students' Perceptions of the Academic and Social/Emotional Effects of Homogeneous and Heterogeneous Grouping. *Gifted Child Quarterly*, 48(1), 7–20.
- Adler, M., & Ziglio. E. (1996). *Gazing into the oracle: The Delphi Method and its application to social policy and public health.* London: Jessica Kingsley Publishers.
- Advising and Requirements.* (n.d.). Barrett, the honors college. Retrieved December 14, 2020, from <https://barretthonors.asu.edu/academics/advising-and-requirements>
- Ambrose, D., VanTassel-Baska, J., Coleman, L.J., & Cross, C.T. (2010). Unified, insular, firmly policed, or fractured, porous, contested, gifted education? *Journal for the Education of Gifted*, 22, 453-478.
- Arizona Department of Education (2007). *Title 15 – Education.* Retrieved from <https://cms.azed.gov/home/GetDocumentFile?id=5503172e1130c016dcbfbc27>
- Arizona Department of Education (2020). *FY20 gifted grant.* Retrieved from <https://www.azed.gov/gifted-education/grant/#:~:text=FY20%20Gifted%20Grant,your%20district%20or%20charter%20LEA>
- Arizona State Course Catalog. (n.d.) Class search. Retrieved December 13, 2020, from <https://webapp4.asu.edu/catalog/classlist?t=2221&hon=T&promod=F&e=open&page=1>

Arizona State University. (2020). *Barrett signature courses*.

<https://barretthonors.asu.edu/academics/honors-courses-and-contracts/signature-courses>

Armstrong, T. (2017). *Multiple intelligences in the classroom* (4th ed.). ASCD.

Bailey, C. (2011). An examination of the relationships between ego development, Dabrowski's theory of positive disintegration, and the behavioral characteristics of gifted adolescents. *Gifted Child Quarterly*, 55(3), 208–222.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215.

Barne-Brown, A. (2018, June 28). The oracle of Delphi: How the ancient Greeks relied on one woman's divine vision [Web log post]. Retrieved from

<https://www.historyanswers.co.uk/ancient/oracle-of-delphi/>

Banchi, H., & Bell, R. (2008). The many levels of inquiry: inquiry comes in various forms. *Science and Children*, 46(2), 26–.

Best college reviews. (2021, April 27). *The 50 top research universities*. Best college reviews.

<https://www.bestcollegereviews.org/top-research-universities/>

Bhor, M. (2020). Advanced research projects and their benefits to gifted secondary students. *Teaching for High Potential*. p. 10-12.

Bloom, B. S., (1985) *Developing Talent in Young People*. NY: Ballantine Books.

Brigandi, C. (2019). Fidelity of implementation for an evidence-based enrichment practice.

Journal of Advanced Academics, 30(3), 268–297.

Brigandi, C., Siegle, D., Weiner, J., Gubbins, E., & Little, C. (2016). Gifted secondary school students: The perceived relationship between enrichment and goal valuation. *Journal for the Education of the Gifted*, 39(4), 263-287.

- Brulles, Saunders, R., & Cohn, S. J. (2010). Improving performance for gifted students in a cluster grouping model. *Journal for the Education of the Gifted*, 34(2), 327–350.
- Burns, D. E., Gubbins, E. J., Reis, S. M., Westberg, K. L., Dinnocenti, S. T., & Tieso, C. L. (2004). *Applying gifted education pedagogy in the general education classroom: Professional development module (PDMCD04)* [CD Rom]. Storrs: University of Connecticut, The National Research Center on the Gifted and Talented.
- Callahan, C. M., Cunningham, C. M., & Plucker, J. A. (1994). Foundations for the future: The socio-emotional development of gifted, adolescent women. *Roeper Review*, 17, 99-105.
- City University of New York. (2020). *Macaulay honors college*. <https://macaulay.cuny.edu/>
- Clark, B. (2008). *Growing up gifted* (7th ed.). Columbus, OH: Charles E. Merrill.
- Clinkenbeard, P.R., & Kolloff, P.B., (2001). Ten suggestions for including gifted education in preservice teacher education. *The Teacher Educator*. 214–218.
- Cochran, S.W. (1983). The Delphi method: Formulating and refining group judgements. *Journal of the Human Science*, 2, 111-117.
- Collins, C.C., Gan, L. (2013). *Does sorting students improve scores? An Analysis of class composition*. Cambridge, MA: National Bureau of Economic Research. Retrieved from <http://www.nber.org/papers/w18848>
- Columbus Group. (1991, July). Unpublished transcript of the meeting of the Columbus Group. Columbus, OH. Retrieved from <http://www.nagc.org/index.aspx?id=574>
- Creswell, J. W. (2015). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, N.J: Merrill.
- Dabrowski, K., & Piechowski, M. M. (1977). *Theory of levels of emotional development: From primary integration to self-actualization* (Vol. 2). Oceanside, NY: Dabor Science.

- Dai D. Y. (2010). *The nature and nurture of giftedness: A new framework for understanding gifted education*. New York, NY: Teachers College Press.
- Dai, D.Y., Swanson, J., & Cheng, J. (2011). State of research on giftedness and gifted education: A survey of empirical studies during 1998-2010. *Gifted Child Quarterly*, 55, 126-138.
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 27–268.
- Dockery, D. J. (2005). *Ways in which counseling programs at specialized high schools respond to social and emotional needs of gifted adolescents* (Doctoral dissertation, University of Virginia, Charlottesville, VA). Available from ProQuest Dissertations & Theses database (Publication No AAT 3161256).
- Field, G.B., (2009). The effects of the use of renzulli learning on student achievement in reading comprehension, reading fluency, social studies, and science. *International Journal of Emerging Technologies in Learning*, 4(1), 29-39.
- Gagné, F. (2015). Academic talent development programs: A best practices model. *Asia Pacific Education Review*. (16): 281-295.
- Gardner, H. (1999). *Intelligence reframed*. New York: Basic Books.
- Grime, M.M., & Wright, G. (2016). Delphi method. *Wiley StatsRef: Statistics Reference Online*. John Wiley & Sons.
- Gross, M. (2002). Social and emotional issues for exceptionally intellectually gifted students. In M. Neihart, S. M. Reis, N. M. Robinson, & S. M. (Moon) Eds.), *The social and emotional development of gifted children: What do we know?* (19-29). Waco, TX: Prufrock Press.

- Guilford, J. (1950). Creativity. *American Psychologist*, 5(9), 444–454.
- Hansen, J., & Feldhusen, J. (1994). Comparison of Trained and Untrained Teachers of Gifted Students. *Gifted Child Quarterly*, 38(3), 115-121.
- Hébert, T., & Mcbee, M. (2007). The Impact of an Undergraduate Honors Program on Gifted University Students. *Gifted Child Quarterly*, 51(2), 136-151.
- Hollingworth, L. S. (1926). *Gifted children: Their nature and nurture*. Macmillan.
- Jandhyala, R. (2020). Delphi, non-RAND modified Delphi, RAND/UCLA appropriateness method and a novel group awareness and consensus methodology for consensus measurement: a systematic literature review. *Current Medical Research and Opinion*, 36(11), 1873–1887.
- Johnsen, Susan. (2004). Gifted education at the undergraduate level?(From the Editor). *Gifted Child Today*, 27(2), 5.
- Inhelder, B., & Piaget, J. (1958). *Adolescent thinking*. Basic Books, Inc.
- Kapplinger, B., & Lichte, N. (2020). “The lockdown of physical co-operation touches the heart of adult education”: A Delphi study on immediate and expected effects of COVID-19. *International Review of Education*, 66(5-6), 777–19.
- Karpova, E., Marcketti, S., & Barker, J. (2011). The efficacy of teaching creativity: Assessment of student creative thinking before and after exercises. *Clothing and Textiles Research Journal*, 29(1), 52–66.5.
- Kramer, L. R. (1991). The social construction of ability perceptions: An ethnographic study of gifted adolescent girls. *Journal of Early Adolescence*, 11, 340-362.

- Lee, S.-Y., Olszewski-Kubilius, P., & Thomson, D. T. (2012). Academically Gifted Students' Perceived Interpersonal Competence and Peer Relationships. *Gifted Child Quarterly*, 56(2), 90–104.
- Linstone, H. A., & Turoff, M. (Eds.). (1975). *The Delphi method* (pp. 3-12). Reading, MA: Addison-Wesley.
- Longo, C. (2010). Fostering creativity or teaching to the test? Implications of state testing on the Delivery of science instruction. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 83(2), 54-57.
- Loo, R. (2002). The Delphi method: a powerful tool for strategic management. *Policing: An International Journal of Police Strategies & Management*. Chicago.
- Lupkowski-Shoplik, A.L., Behrens, W.A., & Assouline, S.G. (2018). *Developing academic acceleration policies: Whole grade, early entrance, & single subject*. Retrieved from [Developing Academic Acceleration_10-23-18.pdf \(nagc.org\)](#)
- Macaulay Advisors on Campus*. (n.d.) Macaulay honors college. Retrieved December 13, 2020 from <https://macaulay.cuny.edu/opportunities/advising-support/macaulay-advising/>
- Macaulay Seminars*. (n.d.). Macaulay honors college. Retrieved December 13, 2020, from <https://macaulay.cuny.edu/academics/nyc-seminars/>
- Manizade, A., & Mason, M. (2011). Using Delphi methodology to design assessments of teacher's pedagogical content knowledge. *Educational Studies in Mathematics*, 76(2), 183–207.
- Mannelly, M. (2018). *Special education funding*. Retrieved from <https://www.azleg.gov/jlbc/19adespecialdagypres.pdf>

- McCoach, D., Siegle, D., & Rubenstein, L. (2020). Pay Attention to Inattention: Exploring ADHD Symptoms in a Sample of Underachieving Gifted Students. *The Gifted Child Quarterly*, 64(2).
- Murray, J.W. Jr. & Hammons, J.O. (1995). Delphi: versatile methodology for conducting qualitative research. *Review of Higher Education*, 18, 423-436.
- National Association of Gifted Children. (2015). *2014-2015 state of the states in gifted education*. <https://www.nagc.org/resources-publications/gifted-state/2014-2015-state-states-gifted-education>
- National Association of Gifted Children. (2019). *Gifted program standards*. <https://www.nagc.org/sites/default/files/standards/Intro%202019%20Programming%20Standards%281%29.pdf>
- National Association for Gifted Children & The Council of State Directors of Programs for the Gifted. (2015). *State of the states in gifted education: Policy and practice data*. [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 Association for Gifted Children & The Council of State Directors of Programs for the Gifted. (2019). *State of the states in gifted education: Policy and practice data*. https://www.nagc.org/sites/default/files/Revised%20NAGC_CSDPG_2018-2019%20State%20of%20the%20States%20in%20Gifted%20Education%20Report-FINAL.pdf
- National Education Association. (2002). *Preparing 21st century students for a global society*. <http://www.nea.org/assets/docs/A-Guide-to-Four-Cs.pdf>

National Science Foundation. (2006). *Investing in America's future*.

<http://www.nea.org/assets/docs/A-Guide-to-Four-Cs.pdf>

New York City Advantages (n.d.). Macaulay honors college. Retrieved December 13, 2020, from

<https://macaulay.cuny.edu/about-macaulay/nyc-advantages/>

NYC Schools to End Gifted & Talented Program in Favor of 'Accelerated Learning' Model.

(2021, October 8). NBC New York. Retrieved December 19, 2020, from

<https://www.nbcnewyork.com/news/local/nyc-schools-to-eliminate-controversial-gifted-talented-classes/3313300/>

Osborne, J., Collins, S., Ratcliffe, M., Millar, R., & Duschl, R. (2003). What “ideas-about-science” should be taught in school science? A Delphi study of the expert community.

Journal of Research in Science Teaching, 40(7), 692–720.

Olthouse, J. (2014). How do preservice teachers conceptualize giftedness? A metaphor analysis.

Roeper Review, 36(2), 122-132.

Pennsylvania State University. (2020). *Schreyer Honors College*. <https://www.shc.psu.edu/>

Public University Honors, (2020, September 28). *Top honors programs*.

www.publicuniversityhonors.com/new-top-programs-by-category/

Rakow, S. (2020). *Educating gifted students in middle school: A practical guide*. Prufrock Press.

Reis, S. M., & McCoach, D. B. (2000). The underachievement of gifted Students: What do we know and where do we go? *Gifted Child Quarterly*, 44(3), 152–170.

Renzulli, J., & Reis, S. (2002). What is schoolwide enrichment. *Gifted Child Today*, 25(4), 18-25.

Renzulli, Joseph S, & Renzulli, Sally Reis. (2010). The schoolwide enrichment model: A focus on student strengths and interests. *Gifted Education International*, 26(2-3), 140-156.

- Rinn, A. N., Mun, R. U., & Hodges, J. (2020). *2018-2019 State of the States in Gifted Education*. National Association for Gifted Children and the Council of State Directors of Programs for the Gifted. <https://www.nagc.org/2018-2019-state-states-gifted-education>
- Ritchotte, J. A., Matthews, M. S., & Flowers, C. P. (2014). The validity of the achievement-orientation model for gifted middle school students: An exploratory study. *Gifted Child Quarterly*, 58(3), 183–198.
- Robinson. (2021, August 9). *The 10 best honors colleges and programs*. <https://blog.prepscholar.com/best-honors-colleges-programs-ranking>
- Ronksley-Pavia, M., Grootenboer, P., & Pendergast, D. (2019). Bullying and the unique experiences of twice exceptional learners: Student perspective narratives. *Gifted Child Today*, 42(1), 19-35.
- Rothenberg, A. (2016). Adolescence and creativity. *Psychology today*. <https://www.psychologytoday.com/intl/blog/creative-explorations/201611/adolescence-and-creativity>
- Rowe, G. and Wright, G. (2001) Expert opinions in forecasting: role of the Delphi technique, in *Principles of Forecasting: A Handbook for Researchers and Practitioners* (ed J.S. Armstrong), Kluwer Academic Publishers, Norwell, MA.
- Sadeh, I., & Zion, M. (2012). Which type of inquiry project do high school biology students prefer: Open or guided? *Research in Science Education*, 42(5), 831-848.
- Sali, G. (2019). Examining the development of creativity in adolescents in 9th and 12th grades: A four year longitudinal study. *Creativity Studies*, 12(2), 341–360.
- Schmidt, V.V. (1995). Awakening intuiting: A Delphi study. *Digital Abstracts International*, 56(10), 3113.

- Seeley, K. (2004). Gifted and talented students at risk. *Focus on Exceptional Children*, 37(4).
- Siegle, D. J. (2015). *Brainstorm: The power and purpose of the teenage brain*. Penguin.
- Siegle, D., & McCoach, D. (2005). Making a difference: Motivating gifted students who are not achieving. *TEACHING Exceptional Children*, 38(1), 22–27.
- Siegle, D., McCoach, D., & Shea, K. (2014). Applying the achievement orientation model to the job satisfaction of teachers of the gifted. *Roeper Review*, 36(4), 210–220.
- Silverman, L. K. (1993). *Counseling the gifted and talented*. Denver, CO: Love.
- Skulmoski, G., Hartman, F., & Krahn, J. (2007). The delphi method for graduate research. *Journal of Information Technology Education*, 6, 1–21.
- Stahl, N., & Stahl, R. (1991). We can agree after all! Achieving consensus for a critical thinking component of a gifted program using the Delphi technique. *Roeper Review*, 14(2), 79–88.
- Sternberg, R. J. (2001). Giftedness as developing expertise: A theory of the interface between high abilities and achieved excellence. *High Ability Studies*, 12(2), 159–179.
- Student Life*, (n.d.). Barrett, the honors college. Retrieved December 13, 2020, from <https://barretthonors.asu.edu/student-life>
- Sword, L. (2001). *Emotional intensity in gifted children*. Victoria, Australia: Gifted and Creative Services.
- Talent Development Task Force. (November, 2015). *National association for gifted children talent development task for report to the board of directors*. Retrieved from http://www.nagc.org/sites/default/files/Governance/TalentDevelopmentTFReport_11%2003%2015_FINAL.pdf
- Tannenbaum, A. J. (1998). Programs for the Gifted: To Be or Not to Be. *Journal for the Education of the Gifted*, 22(1), 3–36.

- Terman. (1925). *Genetic studies of genius ...* Stanford University Press.
- Testa, S. (2010). Perceptions of teachers and students regarding the middle school honors program. *Current Issues in Education*, 13(2). Retrieved from <http://cie.asu.edu/>
- The history of gifted and talented education*. (n.d.). People serve of UNCW. Retrieved December 15, 2020, from <http://people.uncw.edu/caropresoe/GiftedFoundations/EDN%20552/NAGC%20-%20History%20of%20g-t.htm>
- Tirri, K., & Laine, S. (2017). Ethical challenges in inclusive education: The case of gifted students. *Ethics, equity, and inclusive education*, 239.
- Trautmann, N., MaKinster, J., & Avery, L. (2004). What makes inquiry so hard? (and why is it worth it?). *National Association for Research in Science Teaching*.
<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.131.4449&rep=rep1&type=pdf>
- Torrance, E. P. (1994). *Creativity: Just wanting to know*. Pretoria, Republic of South Africa: Benedic Books.
- US Code: Education, 20 U.S.C. #27 (2022).
[https://uscode.house.gov/view.xhtml?req=\(title:20%20section:7801%20edition:prelim\)](https://uscode.house.gov/view.xhtml?req=(title:20%20section:7801%20edition:prelim))