Examining Teachers' Talent Recognition Process

During a Summer Talent Development Program

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A Capstone Project

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by

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Abstract

This Capstone Project focused on a local problem of practice, the need to increase identification of students from underrepresented populations for the gifted education program at Fairland County School (FCS) district. Two approaches to addressing the macro-problem of underrepresentation include broadening teachers' conceptions of giftedness and supporting teachers in developing a deeper understanding of how potential, gifts, and talents manifest in primary-grade students. Project Kaleidoscope applied these approaches through implementing a summer talent development program for students with high potential and professional development opportunities. For this qualitative, descriptive case study, I sampled archival data from Project Kaleidoscope 2019 summer intersession and focused on the case of a pair of co-teachers in one classroom at Poplar Elementary School. Data sources included observations, an interview, teacher-collected data, observational forms (Traits, Atrributes, and Behaviors (TABs)), and student work products. This study examined the following research questions: 1) Given the unique context of the summer intersession, to what extent did teachers make note of and talk about student outputs as indicative of potential, gifts, or talents? 2) To what degree do the things teachers make note of and talk about align with the content of the TABs form, summer curriculum, professional development modules, and the summer intersession teacher training? Results indicated that teachers successfully recognized the potential, gifts, and talents of students from underrepresented populations who were overlooked during the school year, including English Learners. Several factors were positively associated with the talent recognition process, including the application of the TABs observational tool, a high-quality curriculum aligned to the TABs, and professional development for talent recognition. Recommendations for FCS to continue improving the talent recognition process and talent development are provided.

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APPROVAL OF THE CAPSTONE PROJECT

This capstone project, ("Examining Teachers' Talent Recognition Process During a Summer Talent Development Program"), has been approved by the Graduate Faculty of the School of Education and Human Development in partial fulfillment of the requirements for the degree of Doctor of Education.

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DEDICATION

My daughter Josie, you are my heart.

When I dream of a better world for all children, I dream it for you.

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Chapter 1: Introduction

In Fairland County School (FCS) district[1], a discrepancy exists in the elementary grades between students referred for gifted services and those of the school district as a whole (Table 1.1). The localized problem of practice for this Capstone project was identified first by the school district itself. White students were more likely to be identified for the gifted and talented program than Black or Hispanic students. The district also includes a small population of the following subgroups: Asian, American Indian, Native Hawaiian/Pacific Islander, and students identified as Two or More Races (Non-Hispanic), but it is difficult to determine if there is a significant difference between K-5 gifted program demographics and the K-5 district-wide demographics for these subgroups. According to the local plan for gifted education for 2015-2020, which was revised in 2017, gifted education leaders within the school district recognized that they needed more equitable representation of students in gifted education programs (Fairland County Schools, 2017). This plan focused on several areas to meet this central goal: teacher professional development, analysis of current identification practices, and improvement of curriculum and instructional services provided in the gifted education program; the plan outlined all of these actions as necessary to better serve students of the district (FCS, 2017).

The demographic information in Table 1.1 compares K-5 student demographics for the gifted program to the district as a whole. This table highlights the disproportionate representation of students in the gifted education program. In particular, students who identify as Hispanic and Black are significantly underrepresented in the district's gifted education program in the elementary grades. K-5 demographic data are provided here since the site of this study is in elementary schools.

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[1] All school, district, and participant names are pseudonymns.

Table 1.1

*2017-2018 K-5 Demographics***:** *Gifted Participation Compared to District-wide*

Baseline Characteristic	Gifted (N=702)		District (N=11,143)	
	n	%	n	%
Race				
Hispanic	58	8.3%	1,754	15.7%
American Indian/Alaskan Native	1	0.1%	21	0.2%
Asian	16	2.3%	194	1.7%
African-American/Black	21	3.0%	870	7.8%
Native Hawaiian/Other Pacific Islander	1	0.1%	15	0.1%
White/Caucasian	572	81.5%	7,734	69.4%
Two or more races	33	4.7%	555	5.0%

FCS conducts universal screening of all students in kindergarten, first grade, and second grade, and employs the use of teacher recommendations before assessment for gifted services (FCS, 2017). FCS formally identifies students as gifted and provides gifted services beginning in second and third grade. Some forms of pull-out enrichment or push-in instruction by gifted resource teachers may occur during grades K-2, but this varies across the 11 elementary schools in the district.

The FCS local plan for gifted education set several goals, many of which focused on increasing the equitable representation of students (FCS, 2017). For example, the plan included the following goals: 1) continuing to improve gifted identification procedures, 2) providing more opportunities for teacher professional learning about the identification of underrepresented students, and 3) increasing the representation of underrepresented populations of students in gifted programming (FCS, 2017). The plan also described steps to reach this broader goal of equitable representation. The district planned to continue offering or expanding enrichment

groups for K-2, noting that they wanted to "reach students who may not be referred for gifted services in the traditional manner" (FCS, 2017, p.7) Additionally, the plan noted they would "continue to examine and refine the identification process, with particular focus on appropriate assessments and effective methods to consider students relative to peers of the same experience and environment" (FCS, 2017, p.7). Overall, this Capstone project examined how contextual factors played a role in "increasing representation of underrepresented students" in the district's gifted education programs (goal 3) and how teachers in the district may have applied professional learning (goal 2) to improve gifted education identification procedures (goal 1).

Background of the Problem: Macro-Problem of Practice

The local problem of practice described in the previous section is a microcosm of a national problem, the underrepresentation of diverse students in gifted education programs in American public schools (Callahan et al., 2017; Wright & Ford, 2018). A priority of the field of gifted education is to develop the potential, gifts, and talents of all students (National Association for Gifted Children, 2015b). Yet historically, gifted education programs have underserved several groups of students, including students from culturally, racially, ethnically, and linguistically diverse backgrounds, students experiencing poverty, and students with disabilities (Callahan, et al., 2017; NAGC, 2011). For several decades, the field of gifted education identified the persistent underrepresentation of students in gifted education programs in American public schools as a significant problem (Callahan et al., 2017; Peters & Engerrand, 2018; Wright & Ford, 2018). Yet researchers leading organizations, such as the National Association for Gifted Children (NAGC), in the field advanced the assumption that giftedness is proportionally represented among children from all culturally, racial, linguistic, and ethnic backgrounds, income levels, and exceptionality groups (NAGC, 2011).

Despite this assumption, the problem of inequitable representation in gifted education programs is pronounced and widespread. Nationally, African American or Black, Latinx or Hispanic American, and American Indian or Native American students are underrepresented by at least 50% in gifted education programs in public schools, according to the Civil Rights Data Snapshot (U.S. Department of Education Office of Civil Rights, 2014). Students experiencing poverty are also underrepresented in gifted education programs, partly because they are less likely to be identified as gifted than their higher-income peers (Hamilton et al., 2018; Plucker & Peters, 2018). In a study by Hamilton et al. (2018), results indicated that students who experienced district-wide, institutional poverty and/or individual poverty (defined as students who qualified for free and reduced lunch) were less likely to be identified as gifted, even when controlling for prior achievement in reading and math.

Over the years, many approaches to solving the problem of underrepresentation have been developed and researched, particularly related to gifted identification practices (Matthews & Peters, 2018). The approaches most relevant to this study include improving gifted identification practices through employing alternative measures and multiple methods (Matthews & Peters, 2018; Worrell, 2014), broadening teachers' conceptions of gifts and talents (Moon & Brighton, 2008; Wright & Ford, 2017), and providing talent development experiences and access to advanced curricula for students at a young age (Briggs et al., 2008; Swanson, 2016). These approaches and related research will be discussed further in the literature review in Chapter 2. In the next section, I will discuss how Project Kaleidoscope applied these three approaches when designing research and learning experiences for students and teachers.

Project Kaleidoscope as a Response to the Problem

Project Kaleidoscope was a five-year, federally funded grant which proposed several goals: 1) To increase primary-grade teachers' capabilities to identify and nurture potential giftedness in underrepresented populations in the area of literacy and reading (pre-K-2), 2) to increase the reading achievement of all students, including underrepresented students (pre-K-2), and 3) to increase the numbers of underrepresented students identified for gifted program services (Moon et al., 2015). Project Kaleidoscope was funded by a U.S. Department of Education Javits grant, a program that focuses on students who have been traditionally underrepresented in gifted and talented education (USDOE, 2019). Schools selected to participate in Project Kaleidoscope included students from culturally, linguistically, ethnically, racially, and socioeconomically diverse backgrounds. The student populations at the five project schools included English Learners and students who were eligible for Title I services.

Site/Context

The research site for Project Kaleidoscope was the FCS district and research was conducted from 2015-2020. FCS is located in the mid-Atlantic region of the United States. The district is about 50 miles from a major city, and the county includes rural and suburban communities. During the 2019-2020 school year, over 11,200 students in grades pre-K-12 attended FCS, with the following demographics: 12.2% of students identified as Hispanic, .9% of as American Indian, 2.0% as Asian, 8.6% as Black/African American, .3% as Hawaiian or Pacific Islander, 79.6% as White, and 7.5% as Two or More Races (Non-Hispanic).

The purposes of Project Kaleidoscope's research focused on primary-grade students and teachers, and therefore, elementary schools were selected as project participating research sites. Overall, there are 11 elementary schools in the FCS district. Project Kaleidoscope cooperated

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with the administration of FCS to select five elementary schools as treatment or project schools. The remaining six elementary schools served as control or non-project schools.

Proposed Solutions to the Problem: Interventions

The Project Kaleidoscope grant proposal described several solutions, and later, the project team designed and implemented interventions. Proposed solutions included: 1) employing curriculum and instruction as a vehicle for talent recognition and development, 2) implementing teacher professional learning focused on talent development and developmental literacy, including broadening teachers' conceptions of giftedness and their understanding of how talent manifests among students from underrepresented populations, and 3) increasing school-home connection. The first two solutions were most relevant to this Capstone project.

Next, I will describe the Project Kaleidoscope interventions most relevant to this study, including the summer intersession and two teacher professional development opportunities, summer intersession teacher training and asynchronous online learning modules.

Project Kaleidoscope Summer Intersession

The Project Kaleidoscope grant proposal set the goal of recognizing and developing the talents of students who were not formally identified for the school district's gifted program and from groups underrepresented in gifted education. Over the course of the project, three summer intersessions occurred during 2017, 2018, and 2019. The summer intersession, also called Camp Kaleidoscope, was a two-week, eight-day, summer talent development program with relatively small class sizes (8-15 students, depending on the school). Invited students attended the summer intersession for three hours per day in the morning, Monday through Thursday. Students were invited to attend the summer intersession if they were identified by Project Kaleidoscope through

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teacher recommendation or the combination of a low literacy assessment score and above average cognitive potential (see Chapter 3 for more detail).

The Project Kaleidoscope team designed the summer intersession to engage students in challenging, enriching learning experiences and to develop their literacy skills. We intended for the summer intersession to be different from a typical school day, and to be a fun, flexible, and engaging learning experience similar to a summer camp. Additionally, the summer intersession and curriculum intentionally provided a venue to highlight students' talents and afforded many opportunities for teachers to recognize and develop students' talents. The proposed case for my study was one of the classrooms during the 2019 summer intersession (see Chapter 3 for more details about research design and sampling).

Teacher Professional Development

Project Kaleidoscope implemented two teacher professional development opportunities relevant to this Capstone project: the summer intersession teacher training and asynchronous, online learning modules. Summer intersession teachers attended a two-day teacher training. This training covered topics such as curriculum implementation, the philosophy of talent development, the purpose of the Traits, Attributes, and Behaviors (TABs) form (Frasier et al., 1995) and how to use this observational tool to recognize talent, and data collection procedures.

Asynchronous, online learning modules were designed to address the following Project Kaleidoscope grant goal: "increasing primary teachers' capabilities to identify and nurture potential giftedness in underrepresented populations in the area of literacy and reading (pre-K-2)" (Moon et al., 2015). These learning modules covered topics relevant to this Capstone study, such as cultivating talent and potential and teachers' collection and use of formal and informal

classroom data. For more detail about teacher professional development opportunities, see Chapter 3.

Introduction to the Capstone Project

For this Capstone project, I conducted a qualitative, descriptive single-case study and examined the case of one classroom and two teachers during a summer talent development program, or summer intersession. My study examined to what extent, given the specific and unique context of the summer intersession, teachers observed evidence of students' potential, gifts, and talents, and interpreted that evidence as such. I also examined the extent to which teachers noticed evidence of students' potential, gifts, and talents while they enacted a high-quality, literacy-based curriculum during a summer intersession with primary-grade students with high potential. I identified patterns and themes related to the contextual factors, such as learning experiences, that situated teachers' observations and interpretations. I analyzed archival data from the Project Kaleidoscope 2019 summer intersession. Data sources included an interview transcript, observational field notes, TABs forms, a curriculum text, and artifacts, including teacher-collected data and student work.

The Project Kaleidoscope grant and summer intersession provided a unique context for this study, due to several contextual factors. The study site, FCS district, defined a strategic plan for gifted education including goals that were closely aligned to the goals of Project Kaleidoscope (FCS, 2017; Moon et al., 2015). Project Kaleidoscope provided teachers with professional development opportunities relevant to my research questions, including summer intersession-specific teacher training and asynchronous, online learning modules about cultivating talent and potential and broadening conceptions of data use. Further, teachers were trained to use an observational tool, the TABs form (Frasier et al., 1995; Appendix A) to

recognize traits, attributes, and behaviors that indicate gifts, talents, and potential. Frasier et al. (1995) designed the TABs specifically to identify students from groups underrepresented in gifted education. Teachers were given a high-quality curriculum (Hockett, 2009) to implement during the summer intersession and all related materials and resources needed to implement the curriculum (Appendix B: Curriculum Overview). The Project Kaleidoscope team also designed the curriculum to frontload literacy skills and highlight talent-spotting moments for students to develop and showcase their talents (Briggs et al., 2008; VanTassel-Baska, 1995). Project Kaleidscope also provided all instructional materials needed to implement the curriculum including slide decks, books, and art supplies.

Contextual factors unique to this setting and case, including teacher training and support, a high-quality curriculum designed for talent-spotting, small class sizes, and students with high potential, impacted the extent to which teachers recognized evidence of students' potential, gifts, and talents.

Situating the Capstone Project

My Role on Project Kaleidoscope

The Project Kaleidscope grant started in 2015, and I joined the Project Kaleidoscope team as a graduate research assistant (GRA) in August 2018. I worked with the grant for 20 hours per week during the school year and during summers 2019 and 2020. During this time, I wrote curriculum, conducted classroom observations during the school year and summer 2019, interviewed teachers and other participants, planned a professional development module, managed and analyzed quantitative and qualitative data, wrote empirical research articles, and assisted with revising curriculum. In my role as GRA, I created much of the 2019 summer intersession curriculum unit, Color Vision, with contributions and feedback from the project

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post-doctoral research associate and Project Kaleidoscope team members. I also had opportunities to assess students' Draw-a-Person (Williams et al., 2006) results and administer an intelligence test to students. Managing the quantitative data for the grant afforded me opportunities to become familiar with the TABs form (Frasier et al., 1995) results, relevant to this study, and to gather quantitative data about each student identified by Project Kaleidoscope. Additionally, I worked on the final grant Technical Report and dissemination efforts, including research presentations and articles.

During the summer of 2019, I co-facilitated the summer intersession teacher training with the post-doctoral research associate and other team members. During the 2019 summer intersession, I conducted classroom observations at three of the five project schools, including Poplar Elementary School. I also conducted one interview with teachers at Poplar Elementary School. After the 2019 summer intersession, I worked with the research team to analyze qualitative data from the summer intersession, so I became familiar with the 2019 data corpus, including interviews, classroom observations, and artifacts. Through my work on Project Kaleidoscope, I began to formulate ideas that would later lead to this Capstone study.

<div align="center">**Capstone Project**</div>

This qualitative study examined the extent to which teachers observed and interpreted evidence of students' potential, gifts and talents, during a summer intersession. In this descriptive case study, I examined a single case at one of the project schools, Poplar Elementary School: one classroom and two co-teachers during the summer 2019 summer intersession. A descriptive case study is appropriate because this research design accounts for the interaction between the case and the context (Yin, 2014).

The context of the summer intersession was unique because teachers were given a high-quality curriculum designed to challenge students and were specifically trained to implement the given curriculum at a teacher training. They participated in Project Kaleidoscope's online learning modules about developmental literacy and talent development. Other unique contextual factors included small class sizes, presence of a co-teacher, and the summer setting. Further, teachers used a research-based observational tool, the TABs form (Frasier et al., 1995), to support their observations of students' potential, gifts, and talents. Participating students were identified as having high potential and the setting of a summer program provided time and opportunities to implement open-ended, creative learning activities. The Project Kaleidoscope team designed these activities to highlight inquiry, imaginative creativity, and problem-solving, which are TABs categories. With these contextual factors at play, this case provided a unique opportunity to investigate contextual factors that supported teachers' observations and interpretations of students' potential, gifts, and talents.

In essence, this study aimed to describe two teachers' talent recognition process and how contextual factors supported their observations. Therefore, this study examined the following research questions:

- RQ1: Given the unique context of the summer intersession, to what extent did teachers make note of and talk about student outputs as indicative of potential, gifts, or talents?

- RQ2: To what degree do the things teachers make note of and talk about align with the content of the TABs form, curriculum, professional development modules, and summer intersession teacher training?

Next, I will discuss how the purposes of this research study the strategic plan goals put forth by FCS.

Strategic Plan Goal 1

Continue to improve gifted identification procedures.

The process of improving FCS district's (2017) gifted identification procedures could benefit from a deeper understanding of the degree to which teachers observed and interpreted students' outputs, such as work products, as evidence of potential, gifts, and talents. A better understanding of how teachers used the TABs to recognize potential and talent could lead to the improvement of the district's gifted identification procedures (FCS, 2017).

Strategic Plan Goal 2

Provide more opportunities for teacher professional learning about the identification of underrepresented students.

Teachers engaged in teacher training about the summer intersession and modules about cultivating potential, talent development, and data use. Research conducted in relation to RQ1 and RQ2 affords opportunities to examine if and how teachers applied their professional learning when observing and interpreting student outputs during the summer intersession and in turn, potentially identifying underrepresented students for gifted programming.

Strategic Plan Goal 3

Increase the representation of underrepresented populations of students in gifted programming.

This is an outcome beyond the scope of this Capstone study. However, the study will describe to what extent teachers observed and interpreted evidence of potential, gifts, and talents within a population of students often underrepresented. After teaching students during the summer intersession, teachers were asked to refer students with potential for gifted services. Further, a better understanding of the contextual factors that support teachers' talent recognition

process could allow for more strategic support to help teachers identify more students from underrepresented populations for the local gifted program.

Theoretical Framework: Teacher Noticing

I selected teacher noticing as the theoretical framework for this study because it describes teachers' process of closely observing students during instruction, which is relevant to my research questions and the talent recognition process. The framework of teacher professional noticing was applied most often in the fields of mathematics and science education (Sherin et al., 2011), yet researchers developed research-based models for teacher noticing for literacy education (Ross & Gibson, 2010; Gibson & Ross, 2016). The teacher noticing framework draws from social constructivist theory (Vygotsky, 1978), research about expertise (i.e., Berliner, 1994), and the broader professional noticing literature (Ross & Gibson, 2010; van Es & Sherin, 2002). More recently, teacher noticing literature shifted to focus on teacher noticing for equity and equitable teaching practices (van Es et al., 2017).

Researchers defined teacher noticing using several features. The first feature, observing, focuses on "identifying what is important in a teaching situation" (van Es & Sherin, 2002, p. 573), often during instruction. Interpreting, the second feature of teacher noticing, involves "making connections between specific events and broader principles in teaching and learning" (van Es & Sherin, 2002, p. 574). In the case of this study, teachers' interpretations might focus on student's verbalization, behavior, action, or product as evidence of a student's potential, gifts, or talents. For the purposes of this study, if teachers make connections to "broader principles in teaching and learning," these would likely include their conceptions of giftedness and talent.

Finally, during the process of teacher noticing, context is important, because what teachers notice about classroom interactions is situated within the specific teaching context (Van

Es & Sherin, 2002). Reasoning based on the learning context is a third feature of teacher noticing, because when a teacher develops more sophisticated noticing practices, she applies what she understands about the specific learning context to reason about a teaching situation. According to van Es and Sherin, teachers draw upon knowledge of their students, subject matter, and principles of teaching and learning to reason about what they observe. In the case of this study, the learning context was a summer talent development program, and teachers might draw upon conceptions of gifts and talents to reason about what they observed. This study focused primarily on two features of teacher noticing: observing and interpreting.

Definition of Key Terms

Curriculum: "a *plan for the experiences* that learners will encounter, as well as the *actual experiences* they do encounter" (Remillard & Heck, 2014, p.707).

Contextual factors: the context involves the setting or circumstances for an event, in this case, the summer intersession. Contextual factors may include, among others, the high-quality summer intersession curriculum, resources, and other instructional materials, co-teachers, small-class-size, and students identified as having high potential.

DAP: The Draw-a-Person (DAP) is a cognitive projective assessment (Williams et al., 2006). Project Kaleidoscope provided the official forms and teachers administered this assessment to all K-2 students in their classrooms. Project Kaleidoscope research team members then used the DAP manual to score each student's DAP. The scores on this assessment indicated students' cognitive potential and removed English language demands.The DAP reports raw scores, scaled scores, and qualitative descriptors. Students who earned an "above average" qualitative descriptor, but a "below benchmark" score on the PALS were identified by Project Kaleidoscope as having high potential.

High-quality curriculum: a curriculum is defined as high-quality based on research-based

indicators drawn from curriculum and instructional models in gifted and general education

(Hockett, 2009). High-quality curriculum is founded upon concepts and essential understandings

and should be authentic to a discipline (Erickson, at al., 2017; Tomlinson et al., 2008;

VanTassel-Baska & Wood, 2010; Wiggins & McTighe, 2005). Additionally, high-quality

curriculum must be flexible, able to be differentiated, as well as meaningful and relevant to

students' lives (Tomlinson, 2014). It should also engage students in depth and complexity

(Kaplan, 2017).

PALS: the Phonological Awareness and Literacy Screening (PALS) is a grade-level, formative

literacy assessment used for preventive screening (Invernizzi et al., 2013). The PALS assesses

students based on developmental literacy content areas, including concept of word and letter-

sound awareness (areas vary by grade-level). FCS administers this assessment to students at the

beginning and end of each school year. FCS shared students' "summed scores" and scores in

specific developmental literacy areas with Project Kaleidoscope. Students who scored "below

benchmark" also took a mid-year assessment. PALS determines the benchmark level for each

grade every 2-3 years. PALS described the purpose of the benchmark as screening to identify

students who "are at-risk for having difficulty learning to read, or who have a significant reading

deficiency." Students who scored "below benchmark" on the PALS were identified by Project

Kaleidoscope as having low literacy achievement. These students were then eligible to be

identified by Project Kaleidoscope as having high potential, depending on the DAP score.

Professional development opportunities: online or in-person learning experiences designed for

educators that provide guidance and opportunities that ideally should focus on content and

include active participation, reflection on praxis, and chances to problem-solve or collaborate

with others (Desimone, 2009). Project Kaleidoscope included two notable opportunities for teacher professional development: a two-day teacher training focused on the summer intersession and its curriculum and asynchronous, online learning modules.

Summer intersession: Project Kaleidoscope implemented a two-week, eight-day summer talent development program with a high-quality, literacy curriculum. Rising first and second-grade students identified by Project Kaleidoscope as having high potential were eligible to attend. Two co-teachers taught the summer intersession at each school. Students attended four days per week, three hours per day, from 9 am-12 pm.

Summer intersession curriculum: For each summer intersession, the Project Kaleidoscope team designed an original a high-quality curriculum that focused on literacy skills and creativity. External reviewers and experts revised this curriculum, which was implemented three hours per day during the summer intersession. There was a different curriculum for each year: 2017, 2018, and 2019. For more detail about the Summer Intersession 2019 curriculum, see Appendix B.

Summer intersession teacher training: Teachers attended a two-day training before the summer intersession. The training conveyed the principles of the curriculum, implementation tips, the philosophy of talent development, and suggestions for TABs data collection. All teachers who taught in the summer intersession were required to attend the training and they were paid for their time.

TABs form: an observational tool that includes categories and performance indicators. The form describes traits, attributes, and behaviors that indicate gifted potential or performance. It was designed to identify English learners and economically disadvantaged students (Frasier, et al. 1995) (Appendix A).

Talent development: Talent Development is an approach to gifted education that prioritizes identifying and developing the potential of all learners, not just manifested gifts or talents, and achieving more equity in gifted education programs (NAGC, 2015b). In this model, giftedness is viewed as a "multi-faceted, domain-specific, developmental, observable through achievement, influenced by a variety of psychosocial factors, and vulnerable to loss if neglected" (NAGC, 2015b, p.5).

Teacher noticing: an analytic process that involves observing or attending to notable evidence or events in the classroom, interpreting that data based on principles of teaching and learning, and reasoning about the observations using the learning contexts and knowledge of students, and responding with instructional decisions or actions (van Es et al., 2017).

Chapter Summary

In this introduction to the Capstone research project, I explained the localized problem of practice, inequitable representation of students in gifted education programs at FCS and provided evidence, including demographic data and the district's 2015-2020 local plan for gifted education. To contextualize this local problem, I described the persistence of inequitable representation of students in gifted education programs nationally. Because the archival data for this study were situated in Project Kaleidoscope, a larger research project, I described the research setting for this grant, with details related to site, context, and interventions. My experiences as a GRA for Project Kaleidoscope informed my design of this study, so I described my role in designing the curriculum and collecting and analyzing data. Overall, in Chapter One, I outlined the purpose of this Capstone study and subsequent research questions and then returned to the micro-problem of practice to closely relate this Capstone Project's purposes to the goals of the local plan for gifted education at FCS. Next, in the Chapter 2, I will review relevant research

literature that served as a foundation for this study and summarize in more detail the theoretical

framework guiding my research.

Chapter 2: Literature Review

In Chapter 1, I situated this Capstone project within a local problem of practice, and more broadly, within the national problem of underrepresentation in gifted education programs. In this chapter, I will discuss in more detail the problem of underrepresentation in gifted and talented (GT) programs in the United States. Researchers proposed the improvement of gifted identification practices as an approach to alleviate the problem of underrepresentation (Grissom et al., 2017, McBee et al., 2016; Peters & Engerrand, 2016). The goals of Project Kaleidoscope and this study worked in concert with the goals described in FCS's local plan for gifted education: namely, improving gifted identification procedures and providing professional development opportunities for teachers to help them identify students from diverse, underserved populations to ultimately create more equitable representation in the FCS' gifted education program.

The setting for this study is the primary grades, before students are formally identified for gifted education programs, which in many schools occurs in second or third grade (Matthews & Peters, 2018). The primary grades are a pivotal time to recognize emergent abilities and develop all students' strengths and potential (Kaplan & Hertzog, 2016; Hertzog et al. 2018). This is an even more urgent time to recognize and develop the potential of students who have received inequitable access to early childhood learning opportunities (Bassok & Galdo, 2016; Bingham & Patton-Terry, 2011), because school readiness and literacy skills affect primary-grade teachers' perceptions of students and their potential, gifts, and talents (Moon & Brighton, 2008).

In the following literature review, I will situate the topics of this study, including underrepresentation and the importance of talent development in the primary grades. To do this, I will explain the importance of early literacy experiences, the necessity of early recognition of

potential and talent development, and primary-grade teachers' role in recognizing and nurturing talent. In relation to gifted identification practices and research, I will focus on the current problems and opportunities related to the use of teacher referrals for gifted education programs. Next, I will describe the potential of observational tools and rating scales to improve teachers' observations and recommendations. This chapter concludes with a discussion of teacher noticing, the theoretical framework that serves as a foundation for this study and a lens through which I will analyze data.

Underrepresentation in Gifted Education

In American public schools, several groups of students have been historically marginalized in gifted education programs (Hodges et al., 2017; NAGC, 2015a; Wright & Ford, 2017). Across the country, students from culturally, racially, ethnically, and linguistically diverse backgrounds (Ford et al., 2020; Hodges et al., 2018; Lamb et al., 2019), students experiencing poverty (Hamilton et al., 2018; Plucker & Peters, 2017), English Learners (National Center for Research on Gifted Education [NCRGE], 2016; Pereira, 2021), and students with disabilities (Crepeau-Hobson & Bianco, 2011; Missett et al., 2016; VanTassel-Baska et al., 2009) experience inequitable enrollment in gifted education programs, although the degree of underrepresentation varies by state or region (Callahan et al., 2017; NAGC, 2011; Yoon & Gentry, 2009). While it is assumed that giftedness is proportionally represented among all groups of students, from all cultural, racial, linguistic, and ethnic backgrounds, income levels, and exceptionality groups (NAGC, 2011), certain groups of students are still disproportionately represented in GT programs nationally.

All students deserve opportunities to fulfill their potential and access appropriately challenging learning experiences—this is considered a civil right and moral imperative (Ford et

al., 2021; Swanson, 2007; U.S. Department of Education Office for Civil Rights [OCR], 2011).

GT programs in American public schools must provide equitable opportunities for students to

develop their gifts and talents (Ford et al., 2021). Over the past three decades, the field of gifted

education has made progress toward more inclusive definitions of giftedness, acknowledging that

giftedness is a multi-dimensional construct, intelligence is malleable and can be developed, and

giftedness should not be viewed as static intellectual ability; instead, potential and talent should

be developed (NAGC, 2015b). More inclusive and equitable definitions of potential, gifts, and

talents should increase access to talent development and gifted education programs; however,

underrepresentation in GT programs remains a problem.

In the following sub-sections, I will discuss the extent of underrepresentation. I will

mention contributing factors of underrepresentation when it is most relevant to this study, but it

is beyond the scope of this paper to describe all contributing factors of underrepresentation.

Furthermore, often students do not fall into one subgroup alone; their intersectional identities and

various group memberships affect their experiences in school and the likelihood of being

identified for gifted programs (Ford, 2013; Ford et al., 2020; Goings & Ford, 2017; Evans-

Winters, 2014).

Underrepresentation: Inequitable GT Program Enrollment

Race and Ethnicity

Several sources, including the Civil Rights Data Snapshot (OCR, 2011), the National

Center for Education Statistics (NCES), and the National Assessment of Educational Progress

(NAEP) (Yaluma & Tyner, 2018) provide data that describe the scope of the inequitable

enrollment or underrepresentation of minoritized students in GT programs. Yaluma and Tyner

(2018) analyzed data from all three sources to depict the extent of inequity by racial and ethnic

groups in high-poverty areas and to better understand students' access to and participation in GT

programs nationally. The authors analyzed GT program participation data by race and ethnicity,

and the results of their analysis indicated that Asian and White students were overrepresented in

GT programs, while Black and Hispanic students were underrepresented. Although percentages

vary slightly depending on the study or data sets used for analysis, Yaluma and Tyner's results

about the extent of underrepresentation are consistent with other reports of inequitable

enrollment in GT programs in the United States (Callahan et al., 2017; NAGC, 2015a). Using

2014-2015 NCES data and 2013-2014 OCR data, Yaluma and Tyner reported that Asian students

comprised 4.8% of the student population and 8.6% enrollment in GT programs and White

students comprised 47.9% of the student population and 55.2% of enrollment in GT programs.

Black students comprised 15% of the national student population, but only 10% of enrollment in

GT programs, and Hispanic students comprised 27.6% of the national student population, but

only 20.8% of enrollment in GT programs (Yaluma & Tyner, 2018). Due to population size, the

authors did not report the extent of underrepresentation for Native American students. The

analysis by Yaluma & Tyner indicated that the extent of over- and underrepresentation of

students by racial and ethnic group varied by state and poverty level (with variance among low-,

medium-, and high-poverty areas). This finding is consistent with other studies' results that

suggest that the rate of inequitable enrollment varies by state or region (Lamb et al., 2019; Yoon

& Gentry, 2009). However, one limitation of studies that compare gifted enrollment across

schools, districts, and states is the varied definitions of giftedness and identification procedures;

researchers acknowledged that this information was not known for all schools and districts

(Lamb et al., 2019; Yaluma & Tyler, 2018). The aforementioned research summarizing the

extent of underrepresentation nationally is also of concern locally. As noted in Chapter 1, Black

and Hispanic students were significantly underrepresented (Table 1.1) in FCS district's gifted program in the elementary grades.

Students Experiencing Poverty

Students experiencing poverty or from a low-income background are underrepresented in gifted education programs for many reasons (Hamilton et al., 2018; Plucker & Peters, 2017). Fewer opportunities to learn before kindergarten impact student achievement and gifted identification rates among students from low-income backgrounds (Peters & Engerrand, 2016; Plucker & Peters, 2017). Teachers' perceptions of students' abilities may play a role in this underrepresentation, as well. According to Ready and Wright (2011), teachers working in lower-socioeconomic and lower-achieving contexts underestimated students' literacy skills more often. Ready and Wright (2011) analyzed a nationally representative data set and the results of their analysis indicated that teachers often perceived students' literacy skills inaccurately, and differences in teachers' perceptions were related to students' racial and ethnic backgrounds, gender, and socioeconomic status.

Individual and institutional poverty appear to be related to underrepresentation. Hamilton et al. (2018) conducted a study examining the impact of student-level, school-level, and district-level poverty on students' likelihood of gifted identification by 5th grade using large data sets (2013-2014 NCES and Elementary and Secondary Information Systems [ELSI]). Even when controlling for students' prior achievement in reading and math, students experiencing poverty were less likely to be identified as gifted than peers from a higher-income background (Hamilton et al., 2018). Furthermore, students experiencing both individual poverty and institutional poverty (which includes school- and district-wide poverty) were even less likely to be identified as gifted (Hamilton et al., 2018).

McBee (2006) also described the relationship between students experiencing low-SES and underrepresentation in GT programs. McBee (2006) conducted a study of gifted identification processes in Georgia elementary public schools and results indicated that students participating in the free and reduced lunch program were less likely than higher-income peers to be nominated for gifted services. McBee (2006) suggested that inequities during the nomination process were a possible cause of the underrepresentation of minority and low-SES students. For this Capstone project, teacher perceptions of students' socioeconomic status may be relevant, because all schools participating in Project Kaleidoscope had a significant number of students experiencing poverty. Indeed, all five schools received targeted assistance for Title I services.

Underrepresentation: Contributing Factors and Potential Solutions

Many factors contribute to underrepresentation in gifted education, from broader socioeconomic factors and policies (Erwin & Worrell, 2012), to gifted identification procedures and assessment practices (Cao et al., 2017; Peters & Engerrand, 2016), and the role of teachers in the nomination and identification of students (Allen, 2017; McBee et al., 2016). However, a discussion of all of these contributing factors is beyond the scope of this paper; with this study's purpose, a focus on the teacher's role is most appropriate. Later in this chapter, I will examine research related to teachers' role in the early recognition of student potential and gifted identification process.

Over the years, many approaches to solving the problem of underrepresentation in gifted education have been developed and researched, particularly related to gifted identification practices (Matthews & Peters, 2018). The approaches most relevant to this study include improving gifted identification practices through employing alternative measures and multiple methods (Matthews & Peters, 2018; Worrell, 2014), such as the use of teacher rating scales or

observational tools (Coleman et al., 2010; Frasier et al., 1995; Gentry et al., 2015), broadening teachers' conceptions of gifts and talents (Moon & Brighton, 2008; Wright & Ford, 2017), and providing talent development experiences and access to advanced curricula for students at a young age (Briggs et al., 2008; Swanson, 2016). This study will contribute to addressing a local problem of practice, underrepresentation at the district level, through examining teachers' observation and interpretation practices while using an observational tool, the TABs (Frasier et al., 1995), during a summer talent development program.

Applying the Talent Development Model in Gifted Education

Project Kaleidoscope adopted a talent development model because the grant focused on identifying and developing potential in young students, not just manifested gifts or talents (Moon et al., 2015). The talent development model is relevant to this study, because this study aimed to examine the extent of teachers' observation and interpretation of students' potential, gifts, and talents in the context of a summer talent development program.

The field of gifted education has been undergoing a significant shift, moving toward recognizing potential and talent instead of fully formed "gifts," which, in the past, were often conceived of as general cognitive ability (Matthews & Peters, 2018). The NAGC Talent Development Task Force summarized modern views of giftedness as "multi-faceted, domain-specific, developmental, observable through achievement, influenced by a variety of psychosocial factors, and vulnerable to loss if neglected" (NAGC, 2015b, p.5). The NAGC Talent Development Task Force articulated a developmental approach to cultivating talent and potential among minoritized students, noting that "typical characteristics of giftedness may manifest differently in high potential and high-ability learners who are CLED, low-income, and/or in some categories of disability…[A]bilities (general intellectual and in specific domains)

are malleable and can be cultivated and nurtured by opportunity" (NAGC, 2015b, p.11). Gifted

education leaders proposed the application of a talent development model because it is a more

inclusive approach to gifted education; indeed, talent development prioritizes developing the

potential of all learners and achieving more equity in gifted education programs (NAGC, 2015b;

Plucker et al., 2017). Furthermore, the talent development model places a "greater emphasis on

identifying potential in early stages of talent development, particularly with individuals who

have had limited opportunities to develop the knowledge, skills, or other characteristics that are

assessed in determining gifted program eligibility and/or services" (NAGC, 2015b, p.5). The

talent development model emphasizes identifying potential, and in this study, I focus on the

extent to which teachers observe and interpret evidence of students' potential, gifts, and talents,

with the assumption that this recognition can lead to developing potential, and further, nurturing

students' talent development. My second research question acknowledged that learning contexts

matter, and that contextual factors play a role in talent development and teachers' understanding

of talent (Plucker et al., 2017).

Importance of Early Literacy Experiences and Talent Recognition

The primary grades are an important time for developing emergent abilities or potential

in all students (Hertzog et al., 2008; Kaplan & Hertzog, 2016), and this includes their literacy

skills. Literacy skills are often prioritized when nominating or identifying students for GT

programs. Many GT programs require advanced verbal scores on standardized tests and strong

classroom performance for gifted identification (Callahan et al., 2017; Matthews & Peters,

2018). However, this emphasis on literacy achievement and English-language proficiency can

put minoritized students at a disadvantage (Matthews & Peters, 2018; Moon & Brighton, 2008;

NCRGE, 2016). An opportunity gap exists among primary-grade students, because minoritized

children do not have equitable access to quality early childhood enrichment experiences, including preschool and other literacy enrichment (Bassok & Galdo, 2016; Bingham & Patton-Terry, 2011). When minoritized students enter school, they are less likely to have participated in enriching literacy learning before kindergarten, which affects their literacy knowledge and skills, literacy achievement scores, and classroom performance once they enter school (Bingham & Patton-Terry, 2011; National Early Literacy Panel, 2008). Yet the use of a talent development model holds promise for developing the talents of students who experienced inequitable access to preschool literacy enrichment, because talent development does not rely on achievement alone as an indicator of gifts or talents, but rather focuses on developing potential at a young age (NAGC 2015b). Additionally, a talent development model emphasizes developing latent potential in students who lacked access to high-quality preschool and literacy enrichment experiences (Briggs et al., 2008; NAGC, 2015b).

Identifying and developing talents in young children through early recognition of potential was presented by several authors as a way to bridge the opportunity gap discussed in the previous paragraph (Hertzog, 2008; Hertzog et al., 2018; Moon & Brighton, 2008; Wright & Ford, 2017). Researchers emphasized that nurturing talents in early childhood is vitally important, especially for students who lacked preschool literacy enrichment, because early recognition of potential helps students to develop academic skills, prevent boredom, and sustain engagement in school (Hertzog, 2008; Hertzog et al., 2018; Wright & Ford, 2017). Indeed, early assessment and identification of students' potential and talents could help all young children learn and grow (Hertzog et al., 2018; Wortham & Hardin, 2015).

When applying a talent development approach, latent potential can be developed in all students through curriculum that frontloads content and skills; this could reduce barriers caused

by lack of early literacy enrichment (Briggs et al., 2008; Hodges et al., 2017; NAGC, 2015b; Swanson, 2016). Project Kaleidoscope prioritized developing students' literacy skills, partly through the summer intersession, using a curriculum that elicited students' communication through several modes of expression: writing, drawing, and speaking (Moon et al., 2015). Project Kaleidoscope provided supports, such as professional development modules and the TABs (Appendix A), to help teachers recognize and develop potential in minoritized students, potential that may be masked by low literacy achievement (Moon et al., 2015). Project Kaleidoscope provided online modules with content to help teachers better understand the developmental stages of early literacy and broaden teachers' conceptions of giftedness. PD modules also included strategies for recognizing how talent manifests among various groups and cultivating students' potential and talents. When teachers participate in professional development about developmental literacy and broadened conceptions of giftedness, this may reduce inequitable access to early literacy enrichment as a barrier to teachers' recognition of students' potential, gifts, and talents (Harradine et al., 2014; Moon et al., 2015). In this Capstone study, I will analyze how teachers observed evidence of potential, gifts, and talents, and how they interpreted that evidence, with the underlying assumption that recognition of potential is an important step toward developing students' talents. This assumption is also aligned to the talent development model (NAGC, 2015b).

Primary-Grade Teachers' Role in Talent Development

Primary-grade teachers play a pivotal role in recognizing and developing young students' potential and talents; they are an important focal point for talent development for several reasons (Moon & Brighton, 2008; Moon et al., 2015). General education or classroom teachers are the main source of talent recognition and development for many primary-grade students. Many

school districts, including FCS, use teacher referrals to identify students for informal talent development in the primary grades and for formal identification during upper elementary school (Hertzog et al., 2018; Moon & Brighton, 2008). However, primary-grade teachers may not prioritize talent development as their responsibility, and many primary-grade teachers hold lower expectations for young learners and culturally diverse students (Moon & Brighton, 2008; Ready & Wright, 2011).

Yet primary-grade teachers are in a unique position to develop students' literacy skills, recognize and nurture potential early, and even elevate literacy instruction to serve the needs of high-potential and advanced readers (Hertzog et al., 2018; Kaplan & Hertzog, 2016; Kreamer, et al., 2020; Sankar-DeLeeuw, 2004). If and when teachers notice evidence of students' potential, gifts, and talents, they will be in a better position to develop those talents (Harradine et al., 2014). Furthermore, what teachers notice influences how they adapt instruction and enact equitable instructional practices (van Es et al., 2017), including instructional adaptations during literacy instruction (Ross & Gibson, 2016).

Overall, primary-grade grade teachers can play a powerful role in developing students' literacy skills, recognizing potential, gifts, and talents, and adapting instruction to develop students' talents and appropriately challenge students. However, primary-grade teachers will likely need support during the process of identifying students, which I will discuss in the next section (Peters & Gentry, 2012; Harradine et al., 2014). Teachers may also need professional development opportunities to better understand characteristics of gifted elementary students (Miller et al., 2009), how potential presents among underrepresented populations (Ford et al., 2020; Frasier et al., 1995; Harradine et al., 2014) and how to develop students' strengths, "emergent abilities," and potential during early childhood (Kaplan & Hertzog, 2016).

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Teacher Recommendations for Gifted Referral and Identification

Teacher nominations, referrals, or recommendations are widely used methods of identifying students for gifted services (NAGC, 2015a). Classroom teachers are often asked to nominate students for further assessment and evaluation for gifted identification, and later, for participation in gifted services (McBee, 2006). Teacher recommendations often involve a formal or informal evaluation by a teacher and serve as a piece of evidence for formal gifted identification (Matthews & Peters, 2008). Gifted identification procedures and policies vary across schools, districts, and states (NAGC, 2015) and teacher recommendations range from informal anecdotes or checklists to the more formal use of validated rating scales or observational tools that have been tested empirically with students and teachers (Harradine et al., 2014; McBee et al., 2016; Peters & Gentry, 2012; Pfeiffer & Petscher, 2008).

Teacher and parent recommendations, assessments, and portfolios are commonly employed as forms of "multiple criteria" or "multiple methods" for identifying gifted students. However, when multiple criteria are used, no single criteria should preclude the others as a first step in the identification process (Matthews & Peters, 2018), yet teacher nominations are often a required first step (McBee, 2006; McBee et al., 2016). However, teacher nominations should not serve as a gatekeeper—they should not be used as the first or only way that students could be referred or evaluated for gifted services (Matthews & Peters, 2018; NAGC, 2015a). According to McBee et al. (2016), the teacher nomination stage was often a required first step during the gifted identification process; nominations were used to limit the number of students formally evaluated for gifted identification using "costly and time-consuming assessments" (p.103) Yet identification policies that require a teacher nomination before testing often resulted in many potentially gifted students being overlooked (McBee et al., 2016).

Although teacher recommendations are a widely used step in the gifted identification process, many researchers questioned if and when classroom teachers can accurately identify students with gifts, talents, or potential, because many teachers do not have training or knowledge related to gifted characteristics or how gifts and talents manifest among various groups of minoritized students (Carman, 2011; Heyder et al., 2018; Matheis et al., 2017). Furthermore, teachers' expectations for students, implicit beliefs, and biases affected their perceptions of students, and in turn, their ability to identify students as gifted. Indeed, teachers' education, life experiences, and backgrounds, such as their race, ethnicity, and social class, impacted their capabilities for recognizing students' potential, gifts, talents. In fact, the results of several studies illustrated bias in referral rates or inequitable enrollment (Grissom & Redding, 2016; Hodges et al., 2018; Lamb et al., 2019; McBee et al., 2016; Tenenbaum & Ruck, 2007; Yoon & Gentry, 2009).

The authors of several studies suggested that teacher nominations or recommendations are not necessarily a cause of inequitable referral and enrollment rates for gifted identification, but that they could be a potential mechanism influencing these outcomes and contributing to the problem of underrepresentation (Grissom & Redding, 2016; Hodges et al., 2018; Lamb et al., 2019; McBee et al., 2016; Yoon & Gentry, 2009). The aforementioned studies are some of the many that investigated the relationship between identification practices and underrepresentation and suggested solutions for increased equity, yet relatively few studies explicitly defined what equitable identification practices look like in action (Gentry et al., 2008; Lamb et al., 2019), in detail, in the classroom, and/or when implemented by teachers. Indeed, the process of how (and what) teachers observe and what they do in their classrooms, with students, during the nomination or referral process has not been fully described or investigated (Harradine et al.,

2014). With this prior research in mind, this study aimed to shed light on the micro-problem of practice of underrepresentation in a local school district. This Capstone study proposes to do so by closely examining the extent of teachers' observations and interpretations of students during a summer development program, with the possible outcome of referring students to be further evaluated for gifted services. Teachers participating in Project Kaleidoscope used an observational tool, the TABs (Frasier et al., 1995), which guided their observations and interpretations.

Use of Observational Tools for More Equitable Teacher Recommendation Practices

In prior sections, I discussed the role of primary-grade teachers in recognizing and nurturing talent, and the prevalence of teacher nominations for gifted identification, along with accompanying problems related to teacher nominations. In this section, I will describe in detail two observational tools developed for the purpose of identifying potential, gifts, and talents among young students and related empirical support for these tools. In the field of gifted education, rating scales and observational tools were used to assist teachers in making accurate and valid judgments of gifts and talents (Pfeiffer & Petscher, 2008), to describe behaviors or actions that indicate high potential, and to prepare teachers to better recognize potential, gifts, and talents among minoritized students (Harradine et al., 2014; Peters & Gentry, 2012). These rating scales and observational tools were developed using extant literature as a foundation to describe research-based characteristics and/or observable traits, attitudes, behaviors indicative of potential, gifts, and talents, with the goal of helping teachers or others identify students accurately, fairly, and with reduced bias (Frasier et al., 1995; Gentry et al., 2015; Harradine et al., 2014; Pfeiffer & Petscher, 2008; Renzulli et al., 2010). According to empirical research, several of these tools or rating scales were applied successfully by general education classroom

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teachers to identify English learners, racially, ethnically, and culturally diverse students, and students experiencing poverty (Frasier et al., 1995; Peters & Gentry, 2012; Pereira, 2021; Harradine et al., 2014)

In the following paragraphs, I aim to provide the reader with an understanding of two observational tools, The Teacher's Observation of Potential in Students (TOPS) and the Traits, Attributes, and Behaviors (TABs) form, and illustrate how they can support more equitable teacher recommendation practices through systematic observation of students. Ideally, these observational tools could serve as guides for teachers as they closely observe students and support teachers in improving the accuracy of their judgments or perceptions about students, because the tools describe specific traits, attributes, or behaviors that indicate potential among minoritized students (Frasier et al., 1995; Harradine et al., 2014). Further, these tools could aid in teachers' observation of behaviors indicating potential, gifts, and talents and serve as a catalyst for reflection about their role in identifying students from marginalized groups (Frasier et al., 1995; Harradine et al., 2014).

Observing Traits, Attitudes, and Behaviors Using the TABs Form

The TABs form is an observational tool developed by the National Research Center on the Gifted and Talented that describes traits, attributes, and behaviors that indicate potential, gifts, and talents, (Frasier et al., 1995). The TABs was originally designed by researchers at the University of Georgia for teachers to identify minoritized students' potential in the classroom and to guide school districts in identifying English Learners and students from economically disadvantaged backgrounds in particular (Frasier et al., 1995). The TABs was part of a comprehensive Staff Development Model (SDM) and Research-Based Assessment Plan (RAP),

which were piloted in five school districts in Georgia and one district in North Carolina during 1991-1992.

The underlying philosophy of the TABs assumes that there are certain fundamental and identifiable traits, attributes, and behaviors underlying the giftedness construct and giftedness itself cannot be directly measured. The TABs was designed with another relevant principle in mind: the traits, attributes, and behaviors described on the form indicate basic characteristics of gifted performance that can be recognized in children across racial, cultural, ethnic, linguistic, and socioeconomic groups. Furthermore, researchers intended the TABs form to be a basis for referral and recommendation methods and the selection of measures to determine gifted identification. Also the TABs could be used to design programs and develop curriculum for GT programs, resulting in alignment among gifted identification practices and services. Frasier et al. (1995) emphasized the strong impact of the sociocultural and economic contexts in which students develop, a foundational idea that continues to be emphasized in the gifted education and talent development literature (Plucker et al., 2017). See a copy of the TABs form below in Figure 2.1; a larger version is available in Appendix A.

Figure 2.1

TABs Form

TABS: Frasier's Traits, Attributes and Behaviors   STUDENT NAME: _____

Guide: This is a guide for observing students in your classroom. As they show evidence of extraordinary potential, highlight the traits below.

INTERESTS	MOTIVATION	INQUIRY	INSIGHT	HUMOR
Intense interests (something unusual) **GENERAL DESCRIPTION** Activities, avocations, objects, etc., that have special worth or significance and are given special attention **HOW IT MAY LOOK** Unusual or advanced interests in a topic or activity; self-starter; pursues an activity unceasingly; beyond the group	Evidence of desire to learn **GENERAL DESCRIPTION** Forces that initiate, direct and sustain individual or group behavior in order to satisfy a need or attain a goal **HOW IT MAY LOOK** Persistent in pursing/completing self-elected tasks (may be culturally influenced evident in school or non-school activities); enthusiastic learner, has aspirations to be somebody, do something	Questions, experiments, explores **GENERAL DESCRIPTION** Method of process of seeking knowledge, understanding or information **HOW IT MAY LOOK** Asks unusual questions for age; plays around with ideas; extensive exploratory behaviors directed toward eliciting information about materials, devices or situations	Quickly grasps new concepts And makes connections; senses deeper meanings **GENERAL DESCRIPTION** Sudden discovery of the correct solution following incorrect attempts based primarily on trial and error **HOW IT MAY LOOK** Exceptional ability to draw inferences; appears to be a good guesser; is keenly observant; heightened capacity for seeing unusual and diverse relationships, integration of ideas and disciplines	Conveys and picks up on humor well **GENERAL DESCRIPTION** Ability to synthesize key ideas or problems in complex situations in a humorous way; exceptional sense of timing in words and gestures **HOW IT MAY LOOK** Keen sense of humor that may be gentle or hostile; large accumulation of information about emotions; capacity for seeing unusual relationships; unusual emotional depth; openness to experience; sensory awareness
COMMUNICATION SKILLS	**MEMORY**	**REASONING**	**PROBLEM SOLVING ABILITY**	**IMAGINATIVE CREATIVITY**
Highly expressive with words, numbers and symbols **GENERAL DESCRIPTION** Transmission and reception of signals or meanings through a system of symbols, codes, gestures, language and numbers **HOW IT MAY LOOK** Unusual ability to communicate (verbally, non-verbally, physically, artistically, symbolically); uses particularly apt examples, illustrations or elaborations	Large storehouse of information (on school or non-school topics) **GENERAL DESCRIPTION** Exceptional ability to retain and retrieve information **HOW IT MAY LOOK** Already knows; 1-2 repetitions for mastery; has a wealth of information about school or non-school topics; pays attention to details; manipulates information	Logical approaches to figuring out solutions **GENERAL DESCRIPTION** Highly conscious, directed, controlled, active, intentional, forward-looking and goal-oriented thought **HOW IT MAY LOOK** Ability to make generalizations and use metaphors and analogies; can think things through in a logical manner; critical thinker; ability to think things through and come up with a plausible answer	Effective (often inventive) strategies for recognizing and solving problems **GENERAL DESCRIPTION** Process of determining a correct sequence of alternatives leading to a desired goal or to successful completion or performance of a task **HOW IT MAY LOOK** Unusual ability to devise or adopt a systematic strategy for solving problems and to change the strategy if it's not working; creates new designs; inventor	Produces many ideas; highly original **GENERAL DESCRIPTION** Process of forming mental images of objects, qualities. Situations, or relationships which aren't immediately apparent to the sense; problem solving through non-traditional patterns of thinking **HOW IT MAY LOOK** Shows exceptional ingenuity in using everyday materials; is keenly observant; has wild, seemingly silly ideas; fluent and flexible producer of ideas; Elaborate; highly curious

Categories on the TABs form include interests, motivation, inquiry, insight, humor, communication skills, imaginative creativity, memory, reasoning, and problem-solving. Each category includes descriptions of specific behaviors in a "General Description" and "How It May Look." The form itself directs teachers as follows: "This is a guide for observing students in your classroom. As they show evidence of extraordinary potential, highlight the traits below." The form summarized behaviors, attributes, or traits that are recognized in other rating scales or observational tools, such as imaginative creativity, problem-solving, and memory (Pfeiffer & Petscher, 2008; Renzulli et al., 2010). Additionally, the TABs includes non-teacher-pleasing behaviors, such as "keen sense of humor that may be gentle or hostile" under the Humor category. The inclusion of non-teacher-pleasing behaviors was prioritized in the TOPS observational tool (Coleman et al., 2010) as a way to help teachers recognize students whose

cultural background or communication style may not be aligned with the teachers' or schools' dominant culture (Harradine et al., 2014). The TABs form also acknowledges that students may be motivated to pursue interests or task not relating to school: "Persistent in pursing/completing self-elected tasks (may be culturally influenced evident in school or non-school activities)" and thereby acknowledges the role of broader sociocultural contexts and life outside of school.

Teachers participating in Project Kaleidoscope used TABs forms during the school year and summer intersessions. The teachers who instructed the Summer Intersession 2019 at Poplar Elementary School, the sampled case for this study, were familiar with the TABs because they have filled it out many times during the school year and summer 2018. See Chapter 3 for more detail. The underlying philosophy of the TABs informed my study, because Project Kaleidoscope teachers used this tool to closely observe students. The TABs served as a framework for teachers to collect informal and formal data, and results will explain the interaction between teachers, observational tools, students, and the talent recognition process.

Through the effective employment of research-based observational tools, teachers' observations could become more accurate, impact their perceptions of students, and ultimately, lead to teachers' recognition of more students with potential (Harradine, et al., 2014; Peters & Gentry, 2012). While the TABs was initially developed over 25 years ago, the content and purpose of this observational tool have enduring relevance. Next, I will discuss a similar observational tool, the TOPS, and an empirical study that illustrates the positive impact of this tool: helping teachers to "notice" and identify potential in minoritized students (Harradine et al., 2014).

The Teacher's Observation of Potential in Students (TOPS) Tool

Harradine et al. (2014) explored the use of "sustained, reflective, and systematic observation" to examine teachers' shift from perceiving students as "at-risk" to "an at-potential mindset," (p.25) using the TOPS to guide teachers toward acknowledging students' strengths. Harradine et al. described teachers' application of the TOPS and described several positive outcomes, for both teachers and students, of using teacher observational tools designed to support teachers in recognizing the potential possessed by minoritized students. In *A Guide to the TOPS*, Coleman et al. (2010) emphasized teacher observations should be completed systematically and over time, so that student behavior can be documented in several varied contexts. The TOPS was designed for teachers of young students (ages 5-9) to help them identify minoritized students (Coleman et al., 2010). It covered nine domains (learns easily, shows advanced skills, displays curiosity and creativity, has strong interests, shows advanced reasoning and problem solving, displays spatial abilities, shows motivation, shows social perceptiveness, and displays leadership) and described specific observable behaviors, including teacher-pleasing and non-teacher pleasing examples of student behaviors (Coleman et al., 2010).

The TOPS was successfully applied by teachers to help them better recognize potential, gifts, and talents in students of color (Harradine et al., 2014). Harradine et al. conducted the study with over 1100 teachers at 100 schools in 4 states. Teacher participants were 88% White, 10% Black, and 2% Latinx. Teachers conducted TOPS observations in two phases. First, over 3-6 weeks, they observed all students and recorded observations on the TOPS Whole Class Observation form, then spent 3-6 more weeks observing specific children, which they recorded on the Individual Student Observation form (Coleman et al., 2010; Harradine et al., 2014). In addition to the TOPS observation forms, researchers collected other data, including a closing

survey with reflection questions and teacher ratings of student achievement. Survey results indicated that after using the TOPS, 74% of teachers felt more able to recognize students with high potential from economically disadvantaged or culturally and linguistically diverse backgrounds. Teachers reported they would have overlooked academic potential in 22% of children of color, and this finding was even more pronounced with African American boys—teachers reported they would have overlooked 53% of African American boys (Harradine et al., 2014).

The results of the Harradine et al. (2014) study indicated that when primary-grade teachers used an observational tool designed for recognizing potential in minoritized students, the tool helped teachers to notice specific behaviors in students they previously overlooked and prevented underidentification of minoritized students. In summary, Harradine et al. (2014) clearly articulated a purpose for teachers' use of observational tools for talent development in young students and a crucial outcome of their study: "Teachers' ability to systematically and purposefully observe all students over time for strengths that have not been noticed previously" especially in students from underrepresented populations (p. 32).

The TABs (Frasier et al., 1995) and the TOPS (Coleman, et al., 2010) are two observational tools proven to help teachers adopt a strength-based approach to observing potential, gifts, and talents in minoritized students. The purpose of this Capstone project is aligned to those of the TABS and the TOPS, and focused on teachers' observations and how they recognized and interpreted potential, gifts, and talents among minoritized students.

Theoretical Framework

Situating Teacher Noticing

Teacher professional noticing was studied for the past 40 years, initially drawing from research on expertise (Berliner, 1994) and professional noticing (Erickson, 2011). Teacher noticing as a framework further developed as it was investigated through empirical research about teaching and teacher education, in fields such as mathematics and science education (Sherin et al., 2011) and literacy instruction (Ross & Gibson, 2010; Gibson & Ross, 2016). Berliner (1994) studied the development of teaching expertise and teacher professional noticing and concluded that teachers' ability to notice and interpret classroom situations or interactions may develop over time. Expert teachers were more likely to engage in teacher noticing and to (1) notice important classroom events or interactions, (2) interpret these as notable and indicative of broader principles of teaching and learning, and (3) reason about the events in relation to the particular context (van Es & Sherin, 2002). However, teaching experience does not always automatically lead to teacher noticing expertise (McDuffie et al., 2014; Ross & Gibson, 2016), although several studies have indicated that the development of teacher noticing skills or practices can be supported through professional development opportunities such as the analysis of teaching videos, reflection paired with structured observation protocols, and teacher noticing coursework (McDuffie et al., 2014; Ross & Gibson, 2010; van Es & Sherin, 2002)

The teacher noticing framework is founded upon social constructivist theory (Vygotsky, 1978), which is consistent with the philosophy underlying the TABs form (Frasier et al., 1995) and the talent development model in gifted education (NAGC, 2015b). The talent development model acknowledges that sociocultural contexts affect how we interpret, value, and develop gifts and talents (Plucker et al., 2017). Erickson (2011) noted that teachers notice through a lens of

developing "dispositions." Over time, teachers develop formulated expectations and perspectives about teaching, learning, and their students based on their own sociocultural backgrounds and experiences. Teachers' dispositions affect what they attend to during instruction and how they interpret the interaction between themselves, students, and their instruction (van Es & Sherin, 2002; Erickson, 2011).

Understanding what teachers notice has implications for how teachers interact with students, modify instruction, respond to students' needs, and whether or not teachers challenge students academically (Harradine et al., 2014; Ross & Gibson, 2016, van Es et al., 2017). Recently, Van Es et al. (2017) introduced "teacher noticing for equity," focusing on what teachers who enact equitable instruction in their classroom notice and how they interpret, reason about, and respond to what they notice with reflective practices and instructional responses. As a whole, these studies coalesce to communicate that what teachers notice matters, because it enables teachers to better understand what their students are learning, inform their instructional decisions, and support more equitable instruction for a diverse array of students (van Es et al., 2017).

Defining Teacher Noticing

Teacher noticing is defined by several features, in slightly different ways depending on the researcher or study (Erickson, 2011; Ross & Gibson, 2010. van Es & Sherin, 2002). I will apply the theoretical framework of the teacher noticing process described by van Es and Sherin (2002), which defined teacher noticing as what teachers observe (or attend to) and how they interpret and reason about what they observe. First, teacher noticing involves attending to something notable (student behavior, instructional event) and making an observation by "identifying what is important in a teaching situation" (van Es & Sherin, 2002, p. 573). For

example, in the case of this study, a teacher might pause by a student and observe while she completes a drawing with colored pencils. The teacher might observe the use of color and ornate detail in the artwork.

Next, teacher noticing involves interpretation, or "making connections between specific events and broader principles in teaching and learning" (van Es & Sherin, 2002, p. 574). When teachers engage in the interpretation part of the teacher noticing process, they make connections between a specific event they have deemed worthy of attention and connect that event to concepts and principles of teaching and learning. For example, when a teacher interprets a student product, like a beautiful, detailed artwork, as evidence of potential, gifts, and talents, the teacher may need to draw on conceptions of creativity and giftedness, understanding of talent development, and knowledge of the individual student, in order to make that interpretation.

As a teacher's noticing expertise increases, she will begin to reason about a teaching situation or event by making connections between what she observed and interpreted to the specific teaching context. Context matters during the teacher noticing process, because what teachers notice about students and classroom interactions is situated within the specific teaching context created by the teacher, classroom, curriculum, school, district, and broader sociocultural context (Plucker et al., 2017; Van Es & Sherin, 2002). Teachers draw upon their knowledge of their students, subject matter, and principles of teaching and learning to reason about what they observe (van Es & Sherin, 2002; Ross & Gibson, 2010; Erickson, 2011). To address RQ1, this study will primarily focus on the observation and interpretation of the teacher noticing framework. RQ 2 acknowledges the importance of context by examining patterns in contextual factors that situate what teachers interpret and observe.

Learning to Notice

Researchers view teacher noticing as a skill that can be developed, but it does not automatically develop with years of experience (Ross & Gibson, 2010; McDuffie et al., 2014). Van Es and Sherin (2002) conducted a study to determine if and how pre-service teachers developed teacher noticing skills; participants included 24 pre-service, secondary math and science teachers, with some teachers in a control group. Video lessons were recorded and software was used as a tool to scaffold teachers' examination of their instruction. At two points during their teacher education program, participants' reflective essays were analyzed using a framework for developing teacher noticing skills created by the researchers. Results indicated that, indeed, even novice teachers could develop teacher noticing skills. The pre-service teachers in this study started to identify specific events during instruction as important, refer to specific evidence in order to discuss these instructional events, and interpret the events.

Applying the Teacher Noticing Framework

Teacher noticing has been described as an important component in helping teachers to enact ambitious instruction (van Es & Sherin, 2002), equitable instruction (van Es et al., 2017), and differentiated and responsive literacy instruction (Ross & Gibson, 2016). The afore-cited studies analyzed teachers' noticing practices with the underlying assumption that teachers must notice instructionally-relevant or important student responses, interactions, and behaviors in order to adapt instruction and respond to students. Recognizing students' potential, gifts, and talents requires first attending to or observing traits, attributes, behaviors, or other aspects of a students' performance, such as a creative product, and interpreting what they observed as evidence of potential, gifts, or talents. In turn, developing a student's talents may require a teacher to reason about and respond to what they observed by finding a way to appropriately

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challenge the student, through avenues such as modifying their instruction or referring students for enrichment or gifted services. The teacher noticing framework will serve as a relevant and thought-provoking lens with which to situate this study and guide data analysis and interpretation.

Chapter Summary

In this review of the literature, I examined the macro-problem of practice, underrepresentation in gifted education nationally, to elucidate the broader context for this study. The development and application of more equitable, inclusive gifted identification practices have been posed as a solution to this problem. This Capstone study focused on one facet of the gifted identification and talent development process, the role of primary-grade teachers in recognizing potential, gifts, and talents in young students. Therefore, in this chapter, I examined research about teachers' knowledge of gifted characteristics, how talent manifests among different groups of students, and the application of observational tools or rating scales for teachers to identify students. To conclude the chapter, I discussed why teacher noticing is a useful theoretical framework to guide this study.

Throughout this chapter, I provided a foundation of relevant research to contextualize this study's purpose, which was to examine the extent to which teachers observed and interpreted evidence of students' potential, gifts, and talents as such and to identify patterns related to the contextual factors that situated teachers' observations and interpretations. In the following Methods chapter, I will discuss the study's research design, site, context, participants, and data analysis plan.

Chapter 3: Methods

In this Capstone project, I examined to what extent teachers observed evidence of potential, gifts, and talents and how they interpreted what they observed. I identified patterns that emerged among the contextual factors, such as learning activities, that situated teachers' observations and interpretations. As I discussed in Chapter 1, this Capstone project drew upon archival data collected as part of a larger research project, Project Kaleidoscope. Through this study, I addressed the following research questions: 1) Given the unique context of the summer intersession, to what extent did teachers make note of and talk about student outputs as indicative of potential, gifts, or talents? 2) To what degree do the things teachers make note of and talk about align with the content of the TABs, the curriculum, professional development modules, and summer intersession teacher training?

In Chapter One, I presented the micro-problem of practice in the local school district and described the Project Kaleidoscope intervention in detail, while also situating the micro-problem of practice within a broader context when presenting a macro-problem of practice of underrepresentation in gifted education. In Chapter Two, I reviewed relevant literature that provided a foundation for this study and described the theoretical framework, teacher noticing, that supports my proposed research and analysis. In this Methods chapter, I will describe the research design for this study and the setting and context. I will describe the Project Kaleidoscope interventions relevant to this study, including curriculum design and development, summer intersession teacher training, and relevant learning modules. I will also explain my research methods related to sampling, participants, data sources, and data analysis. Finally, I will discuss my role as researcher, positionality, trustworthiness, and ethical considerations.

Research Design

I conducted a qualitative, descriptive single-case study and examined the case of one classroom during the Summer Intersession 2019 using archival data (Yin, 2014). A descriptive case study was appropriate because it acknowledged the interaction between the case itself and the context (Yin, 2014). The unit of analysis for my study was the case of one classroom with two co-teachers and 14 students. This case was purposefully sampled from among the five project schools, and intensity sampling was used (Patton, 2014). Sampling will be discussed more later in this chapter.

Setting/Context

Site

Project Kaleidoscope's larger research study, from which I sampled archival data, was conducted in the Fairland County School (FCS) district from 2015-2020. This school district is located in Fairland County in the mid-Atlantic region of the United States. The district is approximately 50 miles from a major urban area, and the county includes both rural and suburban areas. During the 2019-2020 school year, over 11,200 students in grades pre-K-12 attended FCS. Demographics for the district included: 12.2% of students selected Hispanic for ethnicity, and for race, .9% of students identified as American Indian, 2.0% as Asian, 8.6% as Black/African American, .3% as Hawaiian or Pacific Islander, 79.6% as White, and 7.5% as Two or More Races (Figure 3.1).

Figure 3.1

2019-2020 Demographics of Fairland County School District
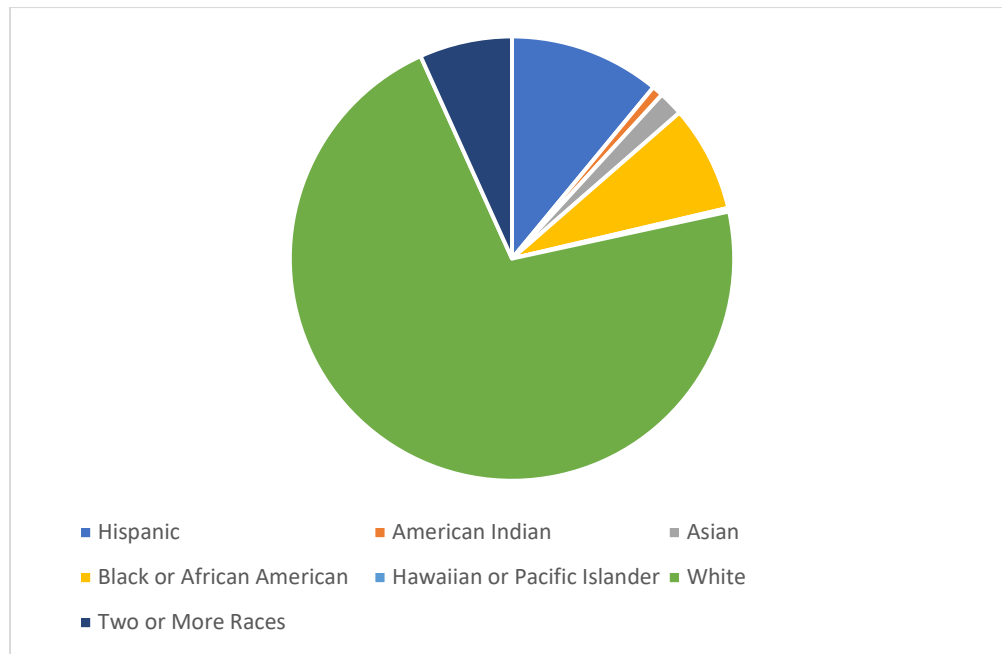
 Project Kaleidoscope targeted primary-grade students and teachers. For this reason, elementary

schools were selected as the research sites. FCS has 11 elementary schools in the district. Five

elementary schools were selected as treatment or project participating schools Table 3.1 and

Figure 3.2 describe aggregated treatment school demographics.

Table 3.1

2018-2019 Treatment Schools Aggregated Demographics for K-2 Students

Baseline Characteristic	Treatment (n=1,006)	
	n	%
Race		
American Indian or Alaskan Native	0	0%
Asian	7	<1%
Black or African American	95	9.4%
Hispanic	231	23%
Native Hawaiian/Pacific Islander	1	<1%
White	603	60%

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Two or more races (Non-Hispanic)	69	6.9%
Gender		
Female	479	47.6%
Male	527	52.4%

Note: The treatment or participating project schools included 5 schools. This table included all students who are in grades kindergarten, first grade, and second grade during the school year 2018-2019. Virginia Department of Education website was the data source.

Figure 3.2

2018-2019 Aggregated Demographics of K-2 Students at Treatment Schools
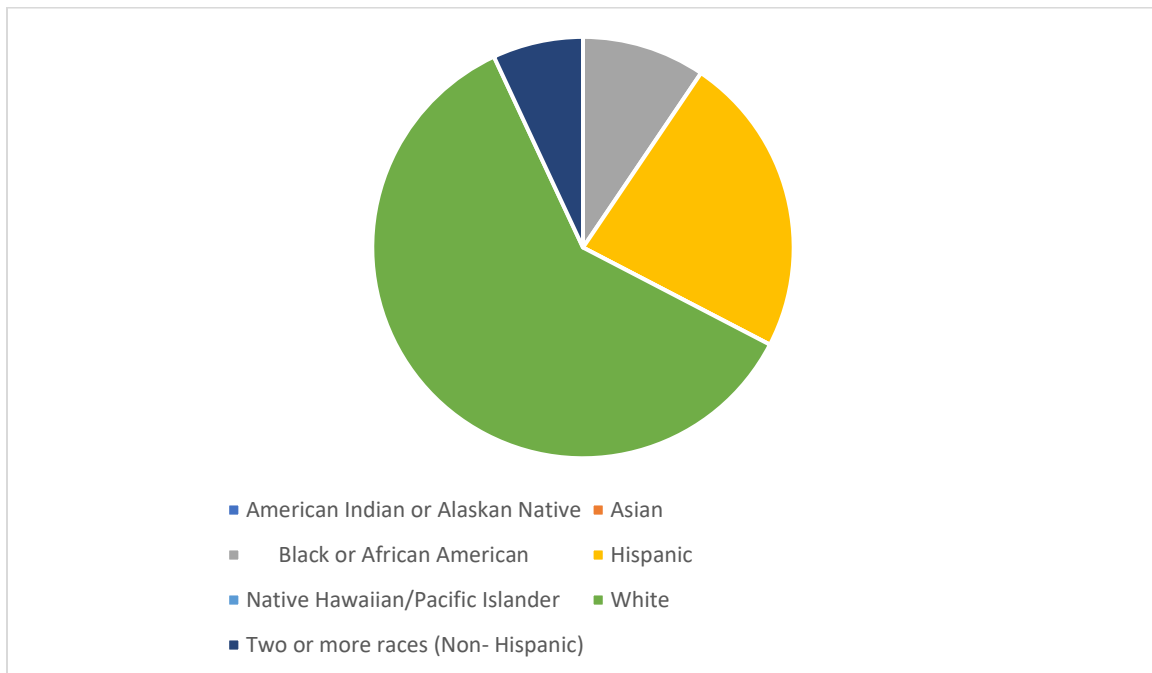
The principal investigators of Project Kaleidoscope worked together with the administration of FCS to select elementary schools to participate in the project. Project participating schools were racially, ethnically, culturally, linguistically, and socioeconomically diverse. The student populations in the project schools included English Learners and students who were eligible for Title I services. Project Kaleidoscope was funded by a U.S. Department of Education Jacob K. Javits grant, which emphasized a focus on students who have been traditionally underrepresented in gifted and talented education (USDOE, 2019). Project schools were chosen from among the 11 schools to align with Project Kaleidoscope's purpose to serve

students who are underrepresented in gifted education. As mentioned earlier, six elementary schools were control or non-project schools. The project collected standardized assessment data from all 11 elementary schools in the district.

Table 3.2 displays the project school demographics by race, ethnicity, and gender, broken out by each of the elementary schools for students in grades K-2. Grades K-2 are shown in the table and figure because students participating in the grant intervention were enrolled in these grades.

Table 3.2

2018-2019 Treatment Demographics for K-2 Students by School

Baseline Characteristic	School 2 (n=248)		School 5 (n=195)		School 7 (n=178)		School 8 (n=252)		School 11 (n=133)	
	N	%	n	%	N	%	n	%	N	%
Race										
American Indian or Alaskan Native	0	0%	0	0%	0	0%	0	0%	0	0%
Asian	4	1.6%	1	<1%	1	<1%	1	<1%	0	0%
Black or African American	42	16.9%	8	4.1%	18	10.1%	22	8.7%	5	3.8%
Hispanic	41	16.5%	63	32.3%	17	9.6%	56	22.2%	54	40.6%
Native American/Pacific Islander	1	<1%	0	0%	0	0%	0	0%	0	0%
White	137	55.2%	110	56.4%	133	74.7%	156	61.9%	67	50.4%
Two or more races (Non-Hispanic)	23	9.3%	13	6.7%	9	5%	17	6.7%	7	5.3%
Gender										
Female	128	51.6%	88	45.1%	84	47.2%	116	46%	63	47.4%
Male	120	48.4%	107	54.9%	94	52.8%	136	54%	70	52.6%

Note: Data sources was the Virginia Department of Education website.

Context: Project Kaleidoscope Grant

Project Kaleidoscope was designed with the following goals in mind: (1) To increase primary teachers' capabilities to identify and nurture potential giftedness in under-represented populations in the area of literacy and reading (pre-K-2); (2) To increase the reading

achievement of all students, including under-represented students preK-2; and (3) To increase

the numbers of underrepresented students identified for gifted program services. My Capstone

project aligned to these grant goals and addressed the micro-problem of practice described in

Chapter One, which was also identified in the FCS's local plan for gifted education.

Summer Intersession

Project Kaleidoscope aimed to identify and nurture the talents of students who were not

formally identified for the school district's gifted program and who were from underrepresented

populations in gifted education. The summer intersession was an eight-day, two-week program

that took place Monday through Thursday from 9am to 12pm. The summer intersession provided

opportunities for students to engage in enriching learning experiences during the summer to

develop their literacy skills. The Project Kaleidoscope team designed the summer intersession to

be a fun, flexible, and engaging learning experience for students, different from a typical school

day, with a summer camp feeling, yet also focused on important literacy skills. We intended for

the summer intersession to be a learning experience that highlighted students' talents and

provided a venue for teachers to recognize and develop students' potential or talents during an

open-ended, summer setting, with small class sizes and an interactive, challenging curriculum.

Curriculum Design and Development

The design of the summer intersession curriculum drew from models of gifted education

curriculum, best practices indicators for high-quality curriculum, and differentiated instructional

philosophy. The Project Kaleidoscope team designed the curriculum to be relevant and

meaningful to students' lives and founded upon concepts and conceptual understandings

(Erickson et al., 2017; Wiggins & McTighe, 2005). Drawing from gifted education models and

differentiated instruction, we designed the curriculum to be challenging, deep, and complex

(VanTassel-Baska & Wood, 2010; Kaplan, 2017), able to be differentiated (Tomlinson, 2014). We aimed to actively engage students in real-world, authentic thinking and doing like experts and disciplinarians, in developmentally appropriate ways (Tomlinson et al., 2008). For example, the 2019 summer intersession curriculum revolved around helping students to observe the world closely and think and create like scientists and artists.

Several overarching understandings framed the curriculum unit, and each daily lesson focused on developing student understanding, knowledge, and skills related to literacy. These KUDs (what students would know, understand, and do as a result of each lesson) were delineated through clear learning objectives. Conceptual and disciplinary understandings could be elicited through open-ended, inquiry-based activities. Learning experiences were designed to be flexible, interactive, and student-centered to encourage creativity and student autonomy. While the curriculum was rigorous, learning experiences were mindfully designed to be implemented during the summer. To aid teachers in curriculum implementation, curriculum writers deliberately designed instructional scaffolds for teachers so that they could apply differentiated instruction and address students' readiness levels, because students attending the summer intersession possessed a wide range of literacy skills.

Curriculum writers and teachers who had participated in the previous summer intersessions provided insights that impacted the design of 2019 summer curriculum. The curriculum was designed for primary-grade students with various levels of literacy skill readiness. Several Project Kaleidoscope team members worked together to design and write the curriculum, all of whom were experienced teachers and curriculum writers. During the curriculum development process, the 2019 curriculum was reviewed internally by the Project Kaleidoscope team and externally. External reviewers included experts in early childhood

education, curriculum design, differentiation, and gifted education. Through an iterative process of feedback, the Project Kaleidoscope team revised the curriculum.

2019 Summer Intersession Curriculum Unit Description

The "Color Vision" curriculum unit was implemented during summer 2019 and included eight lessons. When implemented, it was intended that each lesson would take around three hours. At the beginning of the curriculum text, an introduction and overview were provided, as well as an At-a-Glance chart that illustrated topics, concepts, essential questions, and an overview of learning activities for each day (see Appendix B). Every lesson plan described the overall purpose for the day and the purpose for each activity. Lesson plans delineated clear learning objectives, including what students would know, understand, and do as a result of the lesson. If background knowledge about a topic would be helpful or necessary for teachers, this information and additional resources were provided. For the most part, each day followed a consistent schedule featuring a similar set of learning experiences. Each lesson included background, learning objectives, opening circle, interactive read-aloud, whole group activity, interactive experience, snack time, centers, closing circle, and home-school connection.

The Color Vision unit focused on the concept of observation. Students learned about concepts, like colors, patterns, and vision, through disciplinary understandings and the way that artists and scientists view the world. Essential questions, based on the unit's conceptual understandings, included, for example: *How do scientists observe and record the world around them? How do artists observe and respond to the world around them?* Through interactive lessons, students learned about patterns by examining patterns in nature. They examined each concept from the lens of both an artist and a scientist, through topics related to the science of color and the light spectrum, to how artists use color to represent emotion in their artwork.

Spiraling was used in the structure of the curriculum design so that concepts and understandings were reinforced from one day to the next.

The topics for lessons during the summer intersession included:

1) Introduction to Camp & How to Observe Closely with Our Five Senses

2) How to Closely Observe the World Around Us

3) Introduction to Patterns and Patterns in Nature

4) Patterns in Daily Life, Nature, and Art

5) All About Colors

6) Color Vision

7) Colors and Art

8) Culmination: *The Wonderful Things We Will Be*

The unit took an interdisciplinary approach to help students experience and examine the similarities and differences between how artists and scientists observe the world around them. Learning experiences provided guidance and time for students to practice thinking, acting, and approaching the world in developmentally appropriate and expert-like ways. During the lesson flow, often content was introduced to the class with a whole group lesson. Students had opportunities to engage in interactive or inductive learning experiences, and later, they could apply what they learned to create a variety of creative products at flexible, differentiated learning stations.

Alignment of Curriculum to TABs Categories

One of the goals of the Project Kaleidoscope 2019 curriculum was to nurture students' potential, gifts, and talents and allow students to develop their talents while teachers had multiple opportunities for talent-spotting. When designing the curriculum, opportunities for students to exhibit traits, attributes, and behaviors and outputs (e.g., work product, verbalizations) that aligned to performance indicators on the TABs form were intentionally built into the curriculum.

The curriculum supported the talent-spotting process by providing resources, time, and opportunities for students to engage in creative, open-ended tasks, inductive reasoning, and inquiry-oriented learning experiences, which provided content for teachers to potentially recognize based on their use of the TABs to observe students.

Figure 3.3 provides examples of learning experiences in the curriculum and notes which TABs category or categories each learning experience aligns to. Figure 3.3 is not an exhaustive list of every time an activity likely afforded opportunities for talent-spotting. However, the curricular and instructional design of these activities lent themselves to supporting students in developing and/or exhibiting performance indicators described in the TABs categories, and the learning experiences were intended to provide a venue for teachers to engage in talent-spotting.

Figure 3.3

Curriculum Learning Experiences and Corresponding TABs Categories

Day	Learning Experiences	TABs Category(ies)
Daily	Stations: • Observation Station • Imagination & Application Station	Imaginative Creativity, Insights, Motivation, Interests, Communication Skills
Day 3	Read Aloud: *Lots and Lots of Zebra Stripes: Patterns in Nature* Activity: Formulating Questions for Further Inquiry	Inquiry, Motivation, Interests
Day 3	Whole Group Activity: Comparing Coral Snakes and King Snakes	Reasoning, Problem-Solving, Memory
Day 4	Interactive Experience: Ocean Tessellation Puzzle	Reasoning, Problem- Solving, Motivation
Day 6	Comparing How Animals and Humans See Color and Animal Vision Game	Memory, Reasoning Insight

I will further describe three of the activities mentioned above to describe how they were designed to support students in exhibiting traits, attributes, or behaviors from the TABs form and providing opportunities for teachers to recognize TABs in students. Each learning experience had opportunities to highlight a trait, attribute, or behavior that teachers could observe. Teachers

could observe informal moments during the summer intersession, in addition to instructional time. For example, students might exhibit behaviors under the categories Humor and Interest during Opening Circle and Snacktime when students were free to chat with friends or choose to access resources, such as the books at Inspiration Station or puzzles. The following sections will discuss explain 1) design of the stations, Imagination & Application Station and Observation Station, 2) the Day 3 read aloud activity about patterns in nature, and 3) Interactive Experience: Ocean Tessellation Puzzle.

Stations

Stations took place daily. Teachers were free to direct students to participate in one or both stations, yet teachers were encouraged to allow students to pursue their interests or task commitment if they wanted to stay at one station and continue working. The following is a direct quote from the curriculum text describing the stations; teachers were encouraged to introduce stations on Day 1 with the text below.

> Each day you will visit two stations. One station is called Imagination and Application Station, because you will do something creative using your imagination. You might also apply something you learned earlier in the day in a new way. The other station, Observation Station, will stay the same each day, but you will have a chance to write, draw, or talk about and record something interesting or memorable you observed each day. Each day at the Observation Station, you will have the opportunity to practice focusing on something specific that you observed. You can share your observations in different ways, just like artists and scientists do. Scientists might draw diagrams or speak and record their observations, while artists might sketch or write about their ideas, before they move on to painting, sculpting, etc. At Observation Station, you will use your very own Observation Journal each day to record your observations (Color Vision curriculum text).

The learning experiences designed for stations each day were aligned to the days' concepts, understandings, and content, so that students could apply and practice what they learned and complete creative products. Stations provided opportunities for teachers to observe TABs categories, such as Imaginative Creativity, Communication Skills, Motivation, and Interests

(Figure 3.4). The learning experiences at each station were open-ended enough to allow students to make decisions about what they wanted to work on and illustrate their creativity through creating original products. Students could exhibit task commitment as they created a journal entry or a piece of artwork, which exhibits the Motivation category. Students could pursue an interest based on the task or piece of artwork they chose to create, thereby exhibiting performance indicators in the TABs category: Interest. Furthermore, journal entry prompts at each station encouraged writing, speaking, and drawing, which afforded students with various modalities to exhibit TABs in the Communication Skills category. See Appendix E to read an excerpt from the curriculum text that includes the directions for one of the Imagination and Application Station activities, Animal Designer.

Figure 3.4

Excerpt from TABs for Imagination & Application Station and Observation Station

IMAGINATIVE CREATIVITY Produces many ideas; highly original	COMMUNICATION SKILLS Highly expressive with words, numbers and symbols	INTERESTS Intense interests (something unusual)	MOTIVATION Evidence of desire to learn
GENERAL DESCRIPTION Process of forming mental images of objects, qualities. Situations, or relationships which aren't immediately apparent to the sense; problem solving through non-traditional patterns of thinking	**GENERAL DESCRIPTION** Transmission and reception of signals or meanings through a system of symbols, codes, gestures, language and numbers	**GENERAL DESCRIPTION** Activities, avocations, objects, etc., that have special worth or significance and are given special attention	**GENERAL DESCRIPTION** Forces that initiate, direct and sustain individual or group behavior in order to satisfy a need or attain a goal
HOW IT MAY LOOK Shows exceptional ingenuity in using everyday materials; is keenly observant; has wild, seemingly silly ideas; fluent and flexible producer of ideas; Elaborate; highly curious	**HOW IT MAY LOOK** Unusual ability to communicate (verbally, non-verbally, physically, artistically, symbolically); uses particularly apt examples, illustrations or elaborations	**HOW IT MAY LOOK** Unusual or advanced interests in a topic or activity; self-starter; pursues an activity unceasingly; beyond the group	**HOW IT MAY LOOK** Persistent in pursing/completing self-elected tasks (may be culturally influenced evident in school or non-school activities); enthusiastic learner, has aspirations to be somebody, do something

Opportunities to exhibit TABs in the Imaginative Creativity category abounded during Station time. See two examples of student work below (Figures 3.5 and 3.6). When students produced creative, original work products, these products provided opportunities for teachers to recognize student potential and characteristics from the TABs. Teachers also had opportunities to observe student work habits as they created products and ask them questions about their inspiration and product.

Figure 3.5

Student Artwork, Day 1

Figure 3.6

Student Artwork, Day 5

Day 3: Read Aloud

The Day 3 curriculum encouraged skills and behaviors described in the TABs categories

of Reasoning, Problem-Solving Ability, Inquiry, and Insight (Figure 3.7), especially through the

Read Aloud activity about Patterns in Nature that used the informational text *Lots and Lots of*

Zebra Stripes: Patterns in Nature.

Figure 3.7

Excerpt from TABs for Day 3 Curriculum

REASONING Logical approaches to figuring out solutions **GENERAL DESCRIPTION** Highly conscious, directed, controlled, active, intentional, forward-looking and goal-oriented thought **HOW IT MAY LOOK** Ability to make generalizations and use metaphors and	PROBLEM SOLVING ABILITY Effective (often inventive) strategies for recognizing and solving problems **GENERAL DESCRIPTION** Process of determining a correct sequence of alternatives leading to a desired goal or to successful completion or performance of a task	INQUIRY Questions, experiments, explores **GENERAL DESCRIPTION** Method of process of seeking knowledge, understanding or information **HOW IT MAY LOOK** Asks unusual questions for age; plays around with ideas; extensive exploratory behaviors	INSIGHT Quickly grasps new concepts And makes connections; senses deeper meanings **GENERAL DESCRIPTION** Sudden discovery of the correct solution following incorrect attempts based primarily on trial and error

analogies; can think things through in a logical manner; critical thinker; ability to think things through and come up with a plausible answer	**HOW IT MAY LOOK** Unusual ability to devise or adopt a systematic strategy for solving problems and to change the strategy if it's not working; creates new designs; inventor	directed toward eliciting information about materials, devices or situations	**HOW IT MAY LOOK** Exceptional ability to draw inferences; appears to be a good guesser; is keenly observant; heightened capacity for seeing unusual and diverse relationships, integration of ideas and disciplines

The essential questions and understandings that guided the learning experiences asked students to apply what they were learning and to think like scientists. During Day 3 of the curriculum, students were asked to comprehend information about patterns, and then apply understanding to observing patterns in nature, and using those patterns to understand nature more deeply, as scientists do.

Table 3.3

Day 3 Understandings and Essential Questions

Understandings	Essential Questions
• Patterns occur in nature. • We can observe patterns in nature. • Noticing patterns in nature can help us. • Scientists use patterns in nature to understand the world around them—I can, too.	• What are patterns? • How can I identify a pattern? • Why would I need to identify a pattern? • Why should I identify a pattern in nature?

Inquiry

The Read Aloud for the informational text *Lots and Lots of Zebra Stripes: Patterns in Nature* was designed to aligned to the understandings and essential questions above. This activity promoted inquiry through supporting students to formulate questions for further inquiry before, during, and after reading. According to the TABs form, Inquiry may manifest through behaviors such as "asks unusual questions for age; plays around with ideas; extensive exploratory behaviors directed toward eliciting information about materials." The read-aloud text introduced

information about patterns in nature and could spark curiosity for students to explore more about

patterns in nature and how and why they occur. The excerpt below from the curriculum text

describes the purpose and content of the learning activity.

> Many students this age have not had experience formulating original questions for further inquiry, so the learning activity included prompting questions, model questions, and a suggestion for teachers to use question stems to support students in formulating questions. (Color Vision curriculum text)

The tip for teachers below provided questions stems to support students in formulating questions

for further inquiry about patterns in nature.

Figure 3.8

Formulating Questions: Tip for Teachers
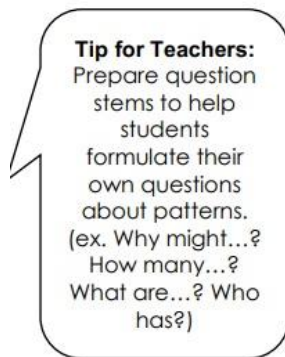
Figure 3.9 provides an example of questions students formulated about patterns in nature before

reading:

Figure 3.9

Formulating Questions: Anchor Chart
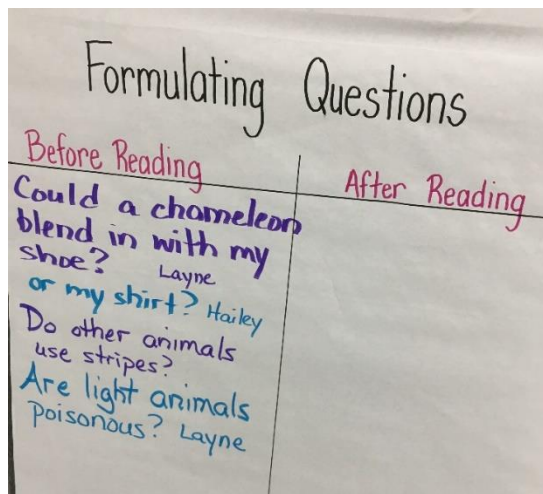
See Appendix F to read an excerpt from the curriculum text for this read-aloud activity.

Day 4 Interactive Experience: Ocean Tessellation Puzzle

The Ocean Tessellation Puzzle Interactive Experience was designed to be an opportunity

for students to apply their understandings of patterns in a hands-on way. This puzzle is unique

because there are several ways to put the puzzle together, with layers of complexity involving

shapes and colors. The curriculum text stated the following advice for teachers:

> Students can look at an image of the tessellation to help them put together the puzzle or
> use no image for additional challenge. There is more than one way that the puzzle could
> possibly be put together. Decide if you'd like students to follow an image on the puzzle
> box or work inductively. (Color Vision curriculum text)

Students could follow the image provided with the puzzle to help them assemble the puzzle. To

increase task difficulty and require problem-solving and reasoning, they could experiment by

selecting one of several different ways to complete the puzzle; indeed, students could create

different patterns based on color or shape. The puzzle's colorful foam shapes were

developmentally appropriate for young learners, yet the act of putting the puzzle together in

multiple, open-ended ways allowed for students to illustrate higher-level cognitive skills,

including TABs categories like Reasoning, Problem-Solving Ability, and Insight. See Figure

3.10 to read more about performance indicators in each category.

Figure 3.10

TABs Categories for Ocean Tessellation Puzzle

REASONING	PROBLEM SOLVING ABILITY	INSIGHT
Logical approaches to figuring out solutions	Effective (often inventive) strategies for recognizing and solving problems	Quickly grasps new concepts And makes connections; senses deeper meanings
GENERAL DESCRIPTION Highly conscious, directed, controlled, active, intentional, forward-looking and goal-oriented thought	**GENERAL DESCRIPTION** Process of determining a correct sequence of alternatives leading to a desired goal or to successful completion or performance of a task	**GENERAL DESCRIPTION** Sudden discovery of the correct solution following incorrect attempts based primarily on trial and error
HOW IT MAY LOOK Ability to make generalizations and use metaphors and analogies; can think things through in a logical manner; critical thinker; ability to think things through and come up with a plausible answer	**HOW IT MAY LOOK** Unusual ability to devise or adopt a systematic strategy for solving problems and to change the strategy if it's not working; creates new designs; inventor	**HOW IT MAY LOOK** Exceptional ability to draw inferences; appears to be a good guesser; is keenly observant; heightened capacity for seeing unusual and diverse relationships, integration of ideas and disciplines

Concepts related to the Ocean Tessellations puzzle were introduced earlier in the day during the Whole Group activity, and later students applied what they learned to experiment with the Ocean Tessellations puzzle. For example, see below a suggested teacher script to accompany images of tessellations displayed on a slide. The text described how tessellations are patterns and they represent patterns in both math and art.

- *Let's look at how patterns are used in math and art.*
- *Tessellations show patterns where the same shapes are turned different ways to create a pattern.*
- *There can be a mix of shapes to fit together like a puzzle.*

- *Later today, we are going to work on an Ocean Tessellation together! Tessellations are patterns in math.* (Color Vision curriculum text)

The Closure portion of the Ocean Tessellations puzzle activity asked students to make connections between patterns in tessellations and patterns in their lives. Students could also exhibit Insight through making inferences and connections related to patterns. See below an excerpt from the Closure portion of this learning experience:

> Once students have assembled the puzzle, you can lead them in a discussion about the importance of patterns and ways that they can apply patterns to daily life. You might explain the following:
>
> **Importance of Patterns**
> Patterns are made up of many different elements that repeat in unique ways. The Ocean Tessellation pattern is more complicated.
>
> Learning to recognize a pattern can help us make predictions about what comes next. Patterns are used in math and art, but patterns can also occur in our daily life, like through routines or events in our lives.
>
> **Closure: Applying Patterns to Daily Life**
> Can you think of a pattern based on events in your daily life, such as the things you do or things that happen to you?
>
> For example, every Tuesday after school does your grandmother pick you up instead of mom or dad or riding the bus? And each Saturday you have a soccer game? When you recognize a pattern, you can figure out what will happen next and prepare for it. Let's turn and talk to a partner. (Color Vision curriculum text)

See Appendix G to read an excerpt from the curriculum text for Interactive Experience: Ocean Tessellations Puzzle.

Overall, the Project Kaleidoscope team designed the curriculum to afford students with opportunities to exhibit TABs that indicated potential, gifts, and talents. In turn, the curriculum was intended to provide many opportunities for teachers to recognize potential in specific ways that are aligned to TABs performance indicators.

Professional Development

Two teacher professional development opportunities enacted by the project are relevant to this study, the summer intersession teacher training and asynchronous learning modules.

Summer Intersession Teacher Training

In 2019, teachers attended a 12-hour, two-day teacher training. Teacher training facilitators presented information about curriculum implementation, the philosophy of talent development underlying the summer intersession, the purpose of the TABs form and how to use it to identify talent, and suggested data collection procedures to support teachers in recognizing student potential (see Appendix H for the teacher training agenda). Several members of the Project Kaleidoscope team facilitated the training (see Appendix I for the agenda with content and facilitation notes used during teacher training implementation). At the training, teachers received a copy of the curriculum text, sticky notes and highlighters to annotate the text, a TABs form, and instructional materials.

The training included dedicated time to discuss how to understand and apply the content of the TABs categories. For example, the trainers led teachers in a discussion about how to observe students using the TABs form. The handout (Appendix J) included a brief summary of each TABs category and three student cases that included context, description of students' words and actions, exemplar observer notes, and reflection questions. The slide deck included examples of student work from previous summers, audio files, written text, and illustrations (Appendix K), so that teachers could practice making inferences about students and TABs based on students' oral storytelling and work products. Furthermore, presenters shared examples of informal and formal data that teachers might notice during the summer intersession, potential data that would align to the performance indicators on the TABs and serve as evidence of students' potential.

Throughout the training, several lessons were highlighted for teachers. Training facilitators shared implementation tips and highlighted potential talent-spotting moments aligned to criteria on the TABs form, such as the Five Senses rotation, Ocean Tessellations puzzle, and a Read Aloud about patterns in nature. For example, trainers modeled how to implement a Day 1 learning experience called the Five Senses Rotation; this was followed by time for teachers to practice and discuss strategies for grouping and how teachers might notice TABs behaviors during this the Five Senses Rotation. See the excerpt below from the teacher training agenda:

> Teacher practice: let the teachers practice asking questions to each other and applying what they learned from the model.
>
> - Discuss: Strategies for grouping students.
> - Discuss: How those TABs behaviors might show up during an activity like this.
> - Discuss: Roles of two teachers (2019 Teacher Training Agenda, Appendix I)

During teacher training, teachers were introduced to several possible systems of data collection, to help them observe, collect data, engage in talent-spotting moments, and later use this data to complete the TABs form at the end of the summer intersession. Training leaders shared ideas about how to collect data realistically and effectively, and teachers also shared ideas with each other. The following excerpt from the training agenda includes guiding questions used for this part of the teacher training:

> Collecting student data:
> - What do we mean by data?
> - Why collect data?
> - How to collect data?
> - Who should be collecting data?
> - When is a good time to collect data?
>
> Review strategies used in prior camps. Let returning teachers share how they collect the data. Review lesson plan of day 1 or 2 with partner teacher and where/when/how they will work to collect data; have partners share. (2019 Teacher Training Agenda)

Several of the teachers taught in the summer intersession previously and they already created systems for collecting data. For example, some teachers created grids using TABs categories,

such as Inquiry and Creativity, and then placed colorful sticky notes with student name and note in each category (Figure 3.11).

Figure 3.11

Example of TABs Teacher Data Collection

Other teachers took notes using sticky notes on a clipboard, then discussed them at the end of the lesson with a co-teacher and sorted the sticky notes by student. During and after camp, teachers used their notes to fill out the TABs forms. For example, during a prior summer intersession, teachers referred to their notes during the summer intersession exit interviews. In conclusion, the teacher training included dedicated time for teachers to discuss data collection with their co-teacher and other colleagues and to learn more about the purpose of the TABs form and how to observe using the TABs.

Professional Development Online Modules

The Project Kaleidoscope team designed asynchronous online modules for professional development to address the first grant goal, "increasing primary teachers' capabilities to identify and nurture potential giftedness in underrepresented populations in the area of literacy and reading (preK-2)." Modules were released periodically over three years from 2016-2019. Teachers were informed when modules were available online, and they logged in with their

school email address to watch and interact with the modules, which also involved active participation and reflection prompts. Teachers could watch the modules more than once, and pause, repeat, and restart sections of the module. The Project Kaleidoscope team kept record of module completion and teachers received professional development credit for voluntarily completing the modules. 12 modules were released, and longer modules were broken into shorter sub-modules, such as Module 12.1 and 12.2.

The first few modules covered important concepts and instructional strategies related to developmental literacy. Other module topics included iteracy development, talent development, and data use for instruction. Each module followed a structure that involved Understanding the ideas, then Applying the ideas and Maximizing the ideas. Two of the modules were particularly relevant to this study's research questions: Module 11: Cultivating Talent Potential and Module 12: Broadening Our Conceptions of Data Use.

Module 11: Cultivating Talent Potential included three parts, 11.1, 11.2, and 11.3; altogether, this module was approximately 30 minutes long, and included slides and audio narration. The content was a summary of several ways that teachers could understand the talent development process as a system and their role in the process; the module writers reviewed strategies for elevating literacy instruction to develop talent. Project Kaleidoscope designed Module 11 to help teachers better understand the interaction between literacy development and developing talent through deliberate cultivation. Module 11 learning objectives included examining strategies for applying literacy instructional best practices to support talent development, understanding how literacy development can mask talent and potential, and separating literacy skills from evidence of talent.

The first segment of Module 11 reviewed content from prior modules, then emphasized strategies for maximizing literacy instruction, or "teaching up for all children." Further, the module described the importance of elevating literacy instruction and emphasized "differentiating literacy experiences so that we can meet kids where they are and then propel them forward from that point" (Module 11 Script; Appendix L). Module 11.1 served as a bridge between prior modules that focused on developmental literacy and literacy instruction strategies and the rest of module 11, which focused on understanding how literacy development can support or mask the identification of students' potential. The following quote from Module 11.1's narration stated for talent development, it is important "…to remember that being at an earlier developmental stage does not signal a lack of talent. Rather, it simply reflects where a student is relative to a particular element of literacy" (Module 11 Script)

Talent development and developmental literacy were described as continuums throughout the modules. Further, a teacher's understanding literacy development works either in concert or at odds with the identification of students' potential and talents. According to the Module 11.1: "…a student's literacy development can actually mask existing potential if students are not yet able to express their ideas in writing or to make the connections in texts that they're able to do outside of reading" (Module 11 Script). The slide from Module 11.1 below depicts the relationship between developmental literacy stages and recognition of students' talents and potential (Figure 3.12).

Figure 3.12

Maximizing Our Instruction Slide (Module 11.1, Slide 13 of 14)
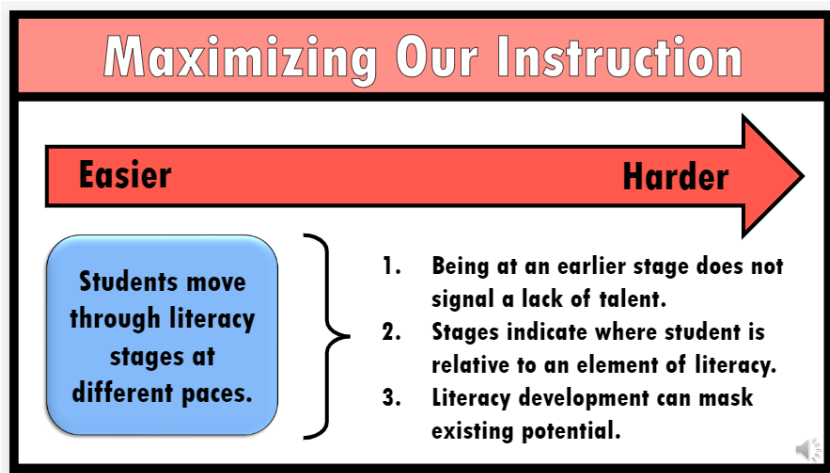
Further, at the end of Module 11.1, participants were asked to reflect on their learning with a Check for Understanding: "Describe a student whose underdeveloped literacy skills may be masking his or her talent. What might that child look like in your classroom?" (Module 11 Script). Through this reflection prompt, teachers applied their growing understanding of talent development and the process of recognizing talent and potential to their students and classrooms. This allowed teachers who would later participate in the summer intersession to practice working with talent development concepts before filling out the TABs forms and/or collecting student data.

The second part of Module 11 emphasized the importance of viewing talent as a developmental concept:

> …we want to think of talent not as something that we pluck, but rather, as something that we cultivate. In other words, we want to move away from the idea that we're simply trying to identify gifted children in the classroom and pluck them out like a flower. Instead, we want to think about how we might cultivate a classroom environment and create learning experiences in which talent is able to grow and make itself evident. (Module 11 Script).

Module 11.2 introduced the case of one classroom by detailing the interactions between a teacher and four students with potential. The intent of analyzing the students and the teacher's observations of them was to practice "separating literacy skills from talent potential and being a kid-watcher and a cultivator" (Module 11 slides). The following quote from the module narration introduced the classroom vignette and a specific task for module participants:

> Let's meet some fictional kids who resemble students we've all had in our classrooms. Our fictional data indicate that these four students – Alex, Ellie, Jess, and Beto – exhibit behaviors that suggests talent potential according to either their tests or to the TABs Observation Checklist. We'd also like you to meet their new teacher, Ms. Moran (also entirely fictional). We've asked her for three informal observations about each of these students. (Module 11 Script)

The module included student data about Alex, Beto, Ellie, and Jess in the form of their words, interests, traits, attributes, and behaviors. These observations aligned to performance indicators described in the TABs categories. For example, fictional teacher Ms. Moran's notes on Ellie, quoted below, indicated that Ellie may exhibit TABs from the categories Interest, Humor, and Motivation.

> Here are Ms. Moran's notes on Ellie. One: Ellie knows her own mind, and questions me constantly. She tends to say "I already know that" when we're learning something new, even if it turns out that she doesn't. Two: She can really crack up her classmates and often makes that her goal. She likes to get us off track. Three: Ellie only wants to read graphic novels. She brings her brother's from home. I'm not sure that she's actually even reading the words. She should be reading chapter books by now. (Module 11 Script)

Ms. Moran's observations of all four students were included in the module for participants to analyze. Participants were asked to pause the module and take their own notes about students as Ms. Moran's observations were presented (see Module 11.2 slides in Figure 3.13). Next, the module analyzed Ms. Moran's observations through a talent development lens and described how she might reframe some of her ideas to better recognize and nurture students' talents.

Figure 3.13

Slides from Module 11.2
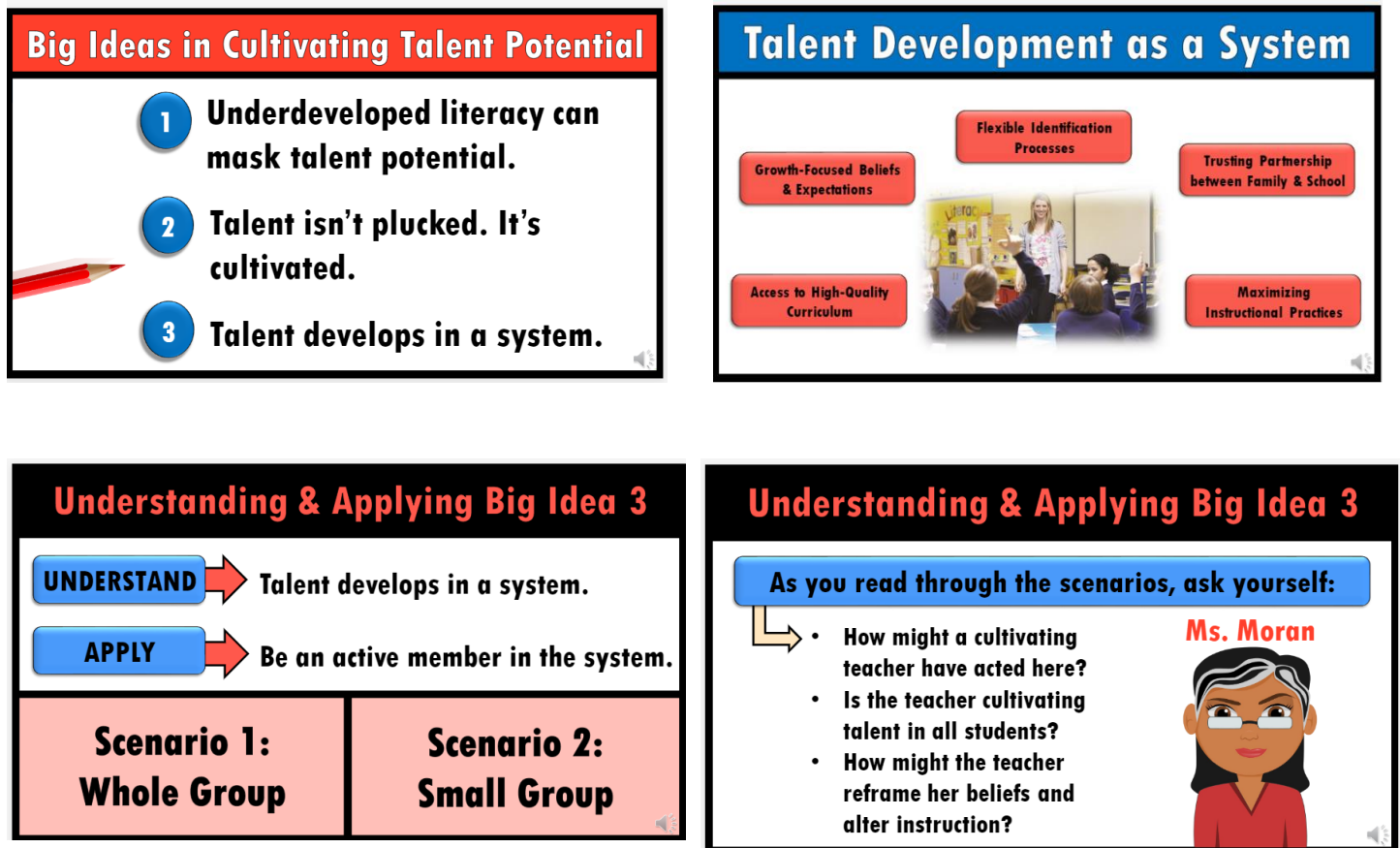
At the end of this module, the dynamic nature of talent development is emphasized once again: "Underdeveloped literacy can mask talent potential. And talent isn't plucked. It's cultivated" (Module 11 Script). To conclude the module, teachers were asked to reflect by examining their responses to one of the students: "Finally, take a moment to reflect on what you've learned in this module about cultivating talent development. Consider for a moment which of the students' descriptions – Alex, Ellie, Jess, or Beto – most resonated with you. Why did that student's story resonate?" (Module 11 Script). The reflection portions of the modules were intended to engage participants in reflection and ask them to apply their new understandings from the modules to their students, instructional practices, and classrooms.

Each of the modules included thought-provoking "Check for Understanding" questions to engage teachers in reflection and apply their learning to their classrooms. For example, the question in Module 11.1 stated, "Describe a student whose underdeveloped literacy skills may be masking his or her talent. What might that child look like in your classroom?" (Module 11 Slide). The following question at the end of Module 11.3 asked teachers to reflect on their role in talent development: "How can you take an active role in the talent development system?" Participant responses to this question from Poplar Elementary School are included below:

Teacher Responses from Poplar Elementary School

By being mindful of my kids talents and helping them reach their potential.
by planning lessons that are challenging to the children and find their talents - and allows them to express those talents.
Give students options throughout the day. Allow them to explore topics and activities that interest them. Be thoughtful in planning lessons and activities. Look for strengths or talents in all students. Think outside of the box as a teacher.
I am offering enrichment lessons that have high expectations for all students. I do my best to encourage the students to extend their learning and to try their best; recognize creativity; and be successful. I try to listen carefully to all students-
I can help my students each cultivate their own talent by helping them to be more comfortable in the classroom setting. Each student is different and it is important to differentiate and help them find what works for them and makes them feel successful.

The beginning of Module 11.3 emphasized the nature of talent development as a system and the importance of teachers' active role in the system. First, the module presented various factors and contexts that affect talent development.

Students' talent development is positively impacted by a number of factors in the system: access to high-quality curriculum, growth-focused beliefs and expectations, flexible gifted identification processes, a trusting partnership that's been cultivated between the family and the school, and instructional practices that have been maximized to propel students forward from where they are. (Module 11 Script)

Throughout the module, teachers were encouraged to take an active role in talent development. Module 11.3 revisits the case of four students and their teacher, Ms. Moran, which allowed participants to practice observing evidence of talent or potential. The following quote from

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Module 11.3 described Ellie's use of language: "Ellie has been drawing a cartoonish bird with tall tail feathers. Underneath her picture, she has written 'peekok blue' and 'teal.'" The spelling of "peekok" reflects a particular stage of developmental literacy and the misspelling of "peacock" could mask student potential. Yet through a talent development lens, module participants could infer Ellie's Imaginative Creativity and notice her use of metaphor from the inventive phrase "peekok blue.'"

Next, teachers were asked to reflect on the evidence in the classroom scenario: "Take a moment to reflect on this classroom example. How might Ms. Moran approach this scenario to help cultivate students' talents?" Overall, the module encouraged participants to interact with the scenario and student data through reflecting and applying what they learned to their own classrooms, through the following narration excerpt:

> Although talent develops in a complex system, you have more power than you may think. You have choices every day to be an active participant in the system as you cultivate talent in your students. Before closing this module, take a moment to reflect on the following question: How can you take an active role in the talent development system? (Module 11 Script)

This summary and final reflection question at the end of Module 11.3 was intended for teachers to reflect on their role in the talent development process:

Module 12, "Broadening Our Conceptions of Data Use" was a two-part module, including 12.1 and 12.2, designed to support teachers in understanding the many sources of data that exist in their classrooms, including both formal and informal data. Objectives for this module included: "Explore the many sources of data that exist in classrooms" and "Consider how to purposefully use data to inform instructional practices that lead to greater student learning outcomes." The module described several ways that teachers can collect and apply data in systematic ways to inform their instructional practices and impact student learning outcomes.

Sampling

Purposeful sampling was used to select one case among the five project schools (Patton, 2014). Intensity sampling was used to select a single case of one classroom with two co-teachers; because I observed at Poplar Elementary[2] several times and interviewed the teachers, I knew this case was information-rich but not extreme or unusual compared to the other four schools (Patton, 2014). Further, both teachers taught during summer intersessions before and observed students using the TABs form, and one of the co-teachers was also a gifted resource teacher; therefore, I predicted that this case would yield information related to close observation and interpretation of students and evidence of potential, gifts, and talents. The students attending the summer intersession at Poplar Elementary School were fairly representative of the overall demographics for the 2019 summer intersession and included Hispanic students, White students, students who identified with two or more races, English Learners, and students eligible for Title I services. Some students in this classroom had attended the summer intersession during the previous summer; for other students, this was their first summer intersession. All students were rising first- and second-grade students.

Overall, I was familiar with this case, because I conducted the final interview with the teachers and collected observational field notes at Poplar Elementary School several times. These experiences provided me with more insight into the data, since I was in the classroom for several days during the summer intersession and I met and got to know the students and teachers. I also collected artifact data in the form of photos of student work.

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[2] All teacher, student, and school names are pseudonyms.

Participants

Teacher participants included two teachers who co-taught in one classroom at Poplar

Elementary School during the 2019 summer intersession, Ms. Branson* and Ms. Clark*

(pseudonyms). During the school year, Ms. Branson was a second-grade teacher at Poplar

Elementary School. As of Summer 2019, she had 15 years of classroom experience and the 2019

summer intersession was her second summer teaching in the summer intersession. Ms. Branson

identified as White and female. Her highest level of education was an Education Specialist

degree. She held several certifications, including early childhood, elementary education, and

English as a Second Language. The 2019 summer intersession was her second summer teaching

with Project Kaleidoscope. Ms. Clark was the gifted resource teacher at Poplar Elementary

School, and she had 20 years of teaching experience. Ms. Clark identified as White and female.

The 2019 summer intersession was her third summer teaching with Project Kaleidoscope. Her

highest level of education was an Education Specialist degree. Her certifications included gifted

education, chemistry, and art. Both teachers had completed all of Project Kaleidoscope's online

learning modules.

Student Participants. Each day at Poplar Elementary, between 12-15 students attended

the summer intersession. 18 students had enrolled in the summer intersession at this location, but

some students did not show up. Students were rising first grade students (n=8) or rising second

grade students (n=7). 8 students were male, while 7 students were female. Several of the students

attended the 2018 summer intersession. Table 3.4 displays demographic information for students

attending 2019 summer intersession at Poplar Elementary School. While eight of the 15 students

identified as White, these students are still considered to be from an underrepresented population

in gifted education due to experiencing poverty. All attending students were eligible to receive

Title I services through the Targeted Assistance program, which means that funding and

supplemental services are provided for students who are identified as failing or categorized as at

the most risk of failing to meet the state's academic standards. Five students were not native

English speakers and received ESL support services at the elementary school. One student was

diagnosed with a learning disability.

Table 3.4

Demographics for Students Attending Summer Intersession 2019 at Poplar Elementary

Baseline Characteristic	Students (N=15)	
	n	%
Race		
Hispanic	5	33.3%
White/Caucasian	8	53.3%
Two or more races (non-Hispanic)	2	13.3%
Gender		
Female	7	46.7%
Male	8	53.3%
Grade		
Rising 1st grade	8	53.3%
Rising 2nd grade	7	46.7%
Learning disability	1	6.7%
English Learners	5	33.3%
Title I Services	15	100%

Note: English Learners were not native English speakers and received ESL services. Students
were eligible for Title 1 services, Targeted Assistance program. Funding and supplemental
services are provided for students who are identified as failing or categorized as at the most risk
of failing to meet the state's academic standards.

Table 3.5 includes demographic information for the 2019 Summer Intersession at all five

schools.

Table 3.5

Summer Intersession 2019: Demographics for Attending Students

Baseline Characteristic	N=57	
	N	%
Race		
American Indian or Alaskan Native	0	0%
Asian	1	1.8%
Black or African American	3	5.3%
Hispanic	22	38.6%
Native American/Pacific Islander	1	1.8%
White	24	42.1%
Two or more races (Non-Hispanic)	5	8.8%
Gender		
Female	31	54.4%
Male	26	45.6%

Identifying Students for Project Kaleidoscope

Students could be identified by Project Kaleidoscope and invited to attend the summer intersession in two ways. During the school year, teachers were invited to recommend students for exhibiting potential, gifts, and talents using the TABs form, an observational tool that describes traits, attributes, and behaviors that indicate potential (Frasier et al., 1995). Some of the categories on the TABs form include Inquiry, Imaginative Creativity, Reasoning, and Problem-Solving, and specific behaviors are described for each category. The TABs form was originally designed to guide school districts in identifying English Learners and students from economically disadvantaged backgrounds (Frasier et al., 1995).

A second way that students were identified by Project Kaleidoscope involved comparing two assessment results that indicated a gap between achievement and potential. At the beginning and end of each school year, students took the Phonological Awareness Literacy Screening (PALS) (Invernizzi et al., 2013), a grade-level, diagnostic literacy assessment used for preventive

screening. The school district shared these scores with Project Kaleidoscope. The PALS score was used by Project Kaleidoscope to assess current literacy levels. The Draw-a-Person (DAP) (Williams et al., 2006), a cognitive projective assessment, was scored by Project Kaleidoscope. Teachers administered the DAP, in their classrooms to all K-2 students. The scores on the DAP indicated students' cognitive potential with English language demands removed. If students scored "below benchmark" on the PALS and "above average" on the DAP, they were identified by Project Kaleidoscope as having potential. Project Kaleidoscope followed these students over the years and invited them to attend summer intersessions.

Almost all of the project students who attended the summer intersession at Poplar Elementary School were identified by Project Kaleidoscope through test scores or teacher recommendations. One student, Oliver, attended the summer intersession at Poplar Elementary although he was already formally identified for the school's gifted program; siblings were invited to attend the summer intersession and Oliver attended with his younger sister, Mia, who was identified by Project Kaleidoscope as having potential.

Data Sources

This study's data sources included field notes from classroom observations, an interview transcript from an exit interview with the two co-teachers, the Summer Intersession 2019 curriculum text, and artifacts, including teacher data collection notes and student work. Below, a brief rationale for each data source is provided.

Field Notes from Classroom Observations

I addressed RQ1 through this data source by examining what teachers observed during instruction. Two trained observers conducted observations using a semi-structured protocol (Appendix C). We conducted four observations at Poplar Elementary School and each one was

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three to three and a half hours long. Researchers proofread observational field notes within 24 hours after data collection. Due to research team availability days, field notes were collected on four of the eight days. Observational field notes included analytic memos about the observations. The memos were audio-recorded or written within 24 hours of the observation, often right after the observation. If audio-recorded, the analytic memos were professionally transcribed, then proofread by the researcher. During the 2019 summer intersession, we collected over 100 pages of observational field notes with analytic memos at Poplar Elementary School.

Interview Transcript

Two co-teachers were interviewed together near the end of the summer intersession 2019. The interview protocol (Appendix D) included questions about individual students relating to the TABs forms and whether teachers would refer students to the school's gifted program. This data source addressed RQ1 and RQ2. The interview was 60 minutes long, audio-recorded, and professionally transcribed.

Completed TABs Forms from Poplar Elementary School

Teachers were trained to use the TABs forms during teacher training for summer intersession 2019. During the school year, teachers completed TABs forms to refer students to Project Kaleidoscope or the summer intersession. The teachers from Poplar Elementary School filled out TABs forms once per school year and once per summer over the course of their participation with Project Kaleidoscope. An online learning module about talent development also described the purpose of the TABs. I analyzed the completed TABs forms from the 2019 summer intersession. This data shed light on how teachers interpreted the student behaviors they observed. The TABs forms addressed RQ1 and 2.

Artifacts

Images of Teachers' Data Collection. Poplar Elementary School co-teachers collected data about students when they took notes during or after instruction in a notebook or on sticky notes. These notes were available in Box (a shared, cloud-based storage system) in the form of photos or typed notes. This data source addressed RQ1 and RQ2.

Secondary Data Source: Student Work Products. Student products represented data that teachers may have noticed or interpreted. These products were used as a secondary data source for triangulation. For example, when a teacher mentioned a student's work during an interview, I examined that work sample to illustrate what the teacher observed and analyzed its alignment to the TABs and the teacher's interpretation. Not all student work products were systematically analyzed. Only student products from summer intersession 2019 at Poplar Elementary School were included.

Secondary Data Source: Summer Intersession 2019 Curriculum

The Summer 2019 curriculum, "Color Vision" served as a secondary data source. What teachers observed and how they interpreted what they observed was dependent on what happened in classroom context. The curriculum, related instructional materials, and learning experiences provided content for teachers to observe behaviors, actions, or products that could indicate talent. This curriculum was designed to include talent-spotting moments. During data analysis, referring to the curriculum provided context for teachers' observations of students. When I examined teacher's data collection artifacts, the learning activity description from the curriculum and an example of student work provided context for teachers' observations and interpretations. Through using the curriculum text as a secondary data source, patterns emerged

related to in the learning experiences during which teachers collected or interpreted data. Indeed, the curriculum was an important contextual factor to examine in order to address RQ2.

Data Collection Methods and Procedures

Project Kaleidoscope collected data through methods including naturalistic observation, interview, and artifact collection, through taking digital photographs of student work and teachers' notes. As previously mentioned, the summer intersession took place at five schools, and four members of the research team conducted observations on a daily basis during summer intersession 2019, but we were not available to observe at every school, every day. One research team member interviewed the two teachers during the second week of the summer intersession at each school. Research team members and teachers collected artifacts.

The two teachers at Poplar Elementary collected data about students through a data recording system they created. They took notes about individual students on sticky notes during instruction and after class, they recorded notes about each student in a notebook and discussed their thoughts about students collaboratively. This data were shared with Project Kaleidoscope at the end of the summer intersession. Table 3.6 shows the days that data were collected at Poplar Elementary School during summer intersession 2019.

Table 3.6
Data Collection at Poplar Elementary School: Observations and Interview

Monday, Day 1	Tuesday, Day 2	Wednesday, Day 3	Thursday Day 4
July 15, 2019	July 16, 2019	July 17, 2019	July 18, 2019
LNP	X	X	LNP

Monday, Day 5	Tuesday, Day 6	Wednesday, Day 7	Thursday Day 8
July 22, 2019	July 23, 2019	July 24, 2019	July 25, 2019
LNP- observation and interview	X	KRM	X

Note: LNP (the author), graduate research assistant. KRM: post-doctoral research associate for Project Kaleidoscope. Artifacts were collected every day by teachers or Project Kaleidoscope team members.

Observation

Naturalistic, "observer as participant" observations (Hays & Singh, 2012) were conducted using a semi-structured observation protocol (Appendix C). For summer intersession 2019, three graduate research assistants (GRAs), one post-doctoral research associate, and two of the grant's principal investigators conducted the observations at all five schools. Each school had one observer present almost every day of the eight-day summer intersession program. GRAs were trained in the semi-structured observation protocol by the project manager. Each observation lasted approximately 3-3.5 hours. The summer intersession took place from 9 a.m. to 12 p.m. Observers were encouraged to arrive before students, at around 8:45 a.m. and stay until around 12:15 pm, which allowed them to observe teachers' preparation and discussions about the curriculum or students after the summer intersession. During the observations, two co-teachers were present in each classroom, and on some days, a paid teacher's helper, such as a high school student, and/or a parent volunteer were also present. At Poplar Elementary, parent volunteers helped on some days and a teacher's helper, a high school student and daughter of Ms. Clark, was present on a daily basis. We conducted four observations at Poplar Elementary School and each one was three to three and a half hours long (on the following dates: 2019, July 15, 18, 22). Although the program was eight days, field notes were only collected on four of the eight days due to research team availability.

After research team members conducted observations, they reflected on the observation by typing or audio-recording analytic memos. Recorded analytic memos were professionally transcribed, then proofread by research team members, and then included with their observational field notes. Research team members were encouraged to proofread their observational field notes within 24 hours, if possible, before conducting their next observation.

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Interview

Interviews were conducted used a semi-structured interview protocol (Appendix D). The use of a semi-structured interview protocol ensured that relevant ideas, such as talent development, curriculum implementation, and gifted identification, were addressed during each interview. A semi-structured protocol also allows for a degree of flexibility to delve into topics specific to each school or teachers (Hays and Singh, 2012).

For this study, I analyzed one interview transcript from Poplar Elementary be sampled. Ms. Branson and Ms. Clark were co-teachers and they were interviewed together by one GRA (the author) on Monday, July 22, 2019 Day 5 of the summer intersession, during the second week of the program. The interview lasted for 60 minutes, and it was audio-recorded with participants' consent. The interview was professionally transcribed. The interview took place in the classroom where the participants taught, which afforded opportunities for them to refer to instructional materials like the curriculum text or anchor charts. Since Ms. Branson and Ms. Clark were interviewed together, the interview process allowed the teachers to process their experiences and build on each other's observations when discussing students and talent development.

TABs Forms

I analyzed the TABs forms teachers completed for students at Poplar Elementary School during the Summer Intersession 2019. Teachers received hard copies of TABs forms labeled with each students' name. They were asked to fill out these forms at the end of the summer intersession. They returned these forms by mail or by scanning and emailing to the Project Kaleidoscope project manager. These forms were stored in a locked file cabinet or online in Box.

Teachers filled out or circled sections of the TABs. Some teachers also wrote comments in one or more categories of the TABs form. TABs results were then recorded in an Excel spreadsheet.

Artifacts

Images of Teachers' Data Collection

Teachers at Poplar Elementary School took notes each day of the summer intersession. They did not take notes about every student, every day. At Poplar Elementary School, the teachers took notes on sticky notes, which they stuck to a piece of paper with an individual student's name on it. They had one paper for each student. At the end of the summer intersession, the teachers took photos of their notes and sent them by email or hard copies were sent by mail. These artifacts were stored in a password-protected, encrypted, cloud-based data storage system called Box.

Student Work Products

Selected student work was collected using digital photos. During or after each observation, research team members took photographs of the classroom setting, anchor charts, and student work, like creative products and journal entries, among others, which served as artifacts. On the days that Project Kaleidoscope research team members were not available to observe at a school, teachers collected data by taking notes about students and photos, which were later shared with the Project Kaleidoscope research team. These artifacts were stored in Box.

2019 Summer Intersession Curriculum Text

The 2019 summer intersession curriculum text, the unit "Color Vision," was already described in a previous section.

Table 3.7 summarizes all data sources and how each source addresses the research questions.

Table 3.7

Summary of Data Sources

Research Questions	Interview	Observations	Artifact: Student Work	Artifact: Teacher-Collected Data	TABs Forms	Curriculum Text
RQ1: Given the unique context of the summer intersession, to what extent did teachers make note of and talk about student outputs as indicative of potential, gifts, or talents?	X	X	X	X	X	
RQ2: To what degree do the things teachers make note of and talk about align with the content of the TABs forms, the curriculum, professional development modules, and summer intersession teacher training?	X	X	X	X	X	X

Data Analysis

I analyzed data through organizing the data, coding the data, and interpreting the data through the creation of categories and themes. I formulated results through describing patterns or the relationships among the themes (Bazeley, 2013). Saldaña (2015) described coding as more than the act of assigning a code as a unit of meaning to a piece of data. He described codifying as a process in which researchers arrange things in a systematic order, to make something part of a system or classification" and "a process that permits data to be divided, grouped, reorganized and linked in order to consolidate meaning and develop explanation" (Saldaña, 2015, p.9). I applied deductive and inductive coding during several rounds of coding. Deductive coding allowed for

reducing the data in ways that aligned to the research questions and theoretical framework, while inductive coding allowed for new insights to arise during the coding and analysis processes.

First, I created a preliminary codebook with *a priori* codes (Appendix M) using conceptual codes from the theoretical framework about the steps of teacher noticing (observing, interpreting, and reasoning) (Van Es & Sherin, 2002) and codes based on the TABs form (e.g., Inquiry, Problem-Solving Ability, Insight) (Frasier et al., 1995). Including these codes in a preliminary codebook supported alignment to the study's theoretical framework and research questions during the data analysis process. Later, I applied the *a priori* codes in the preliminary codebook to teachers' data collection notes, then field observations, and then the interview transcript. Deductive coding helped to reduce or chunk the data into meaningful pieces. After each coding session, I wrote analytic memos (Appendix N) to reflect on insights, patterns or themes, and engage in reflexive thinking (Saldaña, 2015). As worked to determine patterns and constructed themes while interpreting the results of coding process, I referred to analytic memos (Bazeley, 2013; Saldaña, 2015).

A secondary round of coding was conducted for a more inductive analysis of the data and created emergent codes informed by any new insights not captured by the *a priori* codes (Hays & Singh, 2012). I created two emergent codes and added their definitions to the codebook. A second iteration of the codebook with both *a priori* and emergent codes was reviewed by a critical peer, another graduate student. She provided feedback on the codes and their definitions and applicability to the data that was used to revise the codebook. Again, I wrote analytic memos to record this feedback loop and revision process. Next, I coded all data using the revised codebook, writing analytic memos written after each coding session.

MaxQDA, a qualitative data analysis software program, was used for computer-assisted coding. The interview transcript, field notes, and artifacts (photos of teachers' data collection) were grouped together as a "project" in MaxQDA. I imported the codebook, including definitions of each code, into MaxQDA as well. MaxQDA allows users to tag the same piece of data with multiple codes and memos, such as short analytic memos, and notes can be added to data to record insights during the coding process. I often retrieved data as a group by code, which helped me to analyze themes and patterns. I also used MaxQDA to sort and search data in different ways, which assisted me when I wrote findings and searched for direct quotes. Bazeley (2013) suggested that the use of qualitative coding software "encourages a greater level of attention to nuances in the data and often leads to deeper insights than would otherwise occur" (p.139).

Next, I categorized codes and related them to each other to suggest themes and patterns (Saldaña, 2015). I wrote theme statements to capture the relationships between codes and ideas. I created theme charts (Appendix O) to describe relationships between codes, ideas, and explain patterns. The theme charts included direct pieces of evidence and potential disconfirming evidence, along with explanations that reflect on disconfirming evidence (Bazeley, 2013). The creation of theme charts served as a type of second-cycle analysis of the data. During this part of the analysis process, I triangulated the data; I cited more than one piece and source of data to support each findings statement.

Researcher Positionality

Several of my experiences and core beliefs about education influenced my data analysis during this Capstone project. I believe that talent development is important approach to develop talent broadly among primary-grade students, so that a wide net is cast to develop potential and talents among all students; furthermore, I believe that talent development opportunities should be

available for all students in different ways throughout their developmental trajectory as learners (Subotnik et al., 2018). Therefore, I supported the talent development model as a foundation for Project Kaleidoscope and the 2019 Summer Intersession. I also believe that curriculum plays an important role in developing talent and helping teachers to recognize talent among students (Briggs et al., 2008; VanTassel-Baska, 1995). Furthermore, I believe that gifts and talents are proportionally present among all cultural, linguistic, racial, ethnic, and socioeconomic groups, and all students deserve opportunities to fully develop their potential and to be supported and challenged as learners (NAGC, 2011; VanTassel-Baska, 1995).

I recognized that I conducted research among students who have historically been marginalized in American public schools and gifted education programs, including students who identified as Hispanic, Latinx, and English Learners. I was sensitive to researching in a community in which I was not a member, and I was situated in a place of privilege through being associated with a university setting, as a highly educated White woman and former teacher. Furthermore, as a former classroom teacher, I respected teachers' expertise and professional judgment and valued their unique perspectives, which impacted how I interpreted the teachers' actions in this study. Overall, I exercised reflexivity during data analysis through writing analytic memos to reflect on my positionality as a researcher.

Kaplan and Hertzog's (2016) pedagogy for early childhood gifted education informed my thinking, because I believe that creating enriching experiences for young learners involves open-ended opportunities for play, exploration, exposure to language, and social interaction. These learning opportunities encourage students' emergent abilities, and further develop or display young students' potential gifts and talents, which in turn, may allow them to be recognized and developed by teachers, parents, or other adults (Kaplan & Hertzog, 2016).

My experiences working as a graduate research assistant (GRA) provided familiarity with the proposed site, context, participants, and data set for this study. In Chapter One, I discussed in detail my role on Project Kaleidoscope. Before starting this Capstone project, I was very familiar with the 2019 summer intersession curriculum unit, Color Vision, because I wrote much of this unit. It is my opinion that this unit was a high-quality, challenging unit that was engaging for students. The curriculum was designed to align to research-based indicators of high-quality curriculum, accepted curriculum models from general and gifted education fields, and the philosophy of differentiated instruction. Over the years, I have had significant experience, through my training as an educator, years spent writing curriculum, and 15 years working with gifted leaners. My experiences and understanding of the curriculum models from gifted and general education and the philosophy of differentiation informed my thinking about curriculum, instruction, and talent development, and impacted my thinking during the analysis phase of this project.

Throughout the research process, from designing the study through analysis, I checked my potential biases through writing analytic memos and discussions with GRAs familiar with Project Kaleidoscope data who served as my critical peers. On the other hand, as a qualitative researcher, I invited insights informed by my experiences; Bazeley (2013) noted that while our perspectives may introduce bias into qualitative research and analysis, the qualitative researcher is also a sensitive instrument with potential great insight for interpreting the world and people around us.

Trustworthiness

Several approaches to data collection and analysis enhanced trustworthiness for this study. First of all, archival data were sampled from a larger data set that had established

credibility through prolonged engagement (Lincoln & Guba, 1989). Data for this study were collected in 2019, after almost four years of prolonged engagement in the school district and with participants (Lincoln & Guba, 1989). Two observers collected the observation data sampled for this study, including a post-doctoral research associate who had been engaged with the district and teachers since 2016 and me (Patton, 2014). Prior to conducting observations, the post-doctoral associated trained all observers with the observation protocol. I engaged with teachers on this research project during the school year and at the summer intersession 2019 teacher training and conducted observations at all five schools in the district over the course of two school years and one summer. Persistent observation occurred during the summer intersession, since the entirety of the day's instruction was observed over the course of several of the eight days, and in-depth data with thick description were collected (Hays & Singh, 2012). The use of a semi-structured observation protocol supported consistent areas of focus for data collection across observers, while also leaving room for unique observations (Creswell, 2014).

During the data analysis process I used triangulation to support trustworthiness through the criteria of credibility, (Patton, 2014). Firstly, use of multiple observers supported triangulation (Patton, 2014). For the archival data sampled for this study, I collected some of the data, but the data were also collected by another observer. The use of multiple methods of data collection, including interview, observation, and artifact collection, also supported credibility through triangulation (Patton, 2014). Furthermore, I corroborated findings through consulting more than one data source as evidence for each finding. In particular, the curriculum text and artifacts served as rich and informative sources of triangulation and strengthened the findings from the interviews and observations (Creswell, 2014).

I designed the data analysis process for this study to establish trustworthiness. After I conducted a round of initial coding and developed my codebook, a critical peer reviewed the codebook and I revised based on feedback to support the rigor of my methodological approach (Patton, 2014). This increased reliability and irgor of data interpretations and reduced bias (Patton, 2014). Additionally, I triangulated and my work was checked by advisors or another researcher to strengthen findings (Patton, 2014). Finally, I wrote analytic memos during the data analysis process to exercise reflexivity, reflect on positionality, and check my assumptions when generating themes, patterns, and later findings (Hays & Singh, 2012).

Ethical Considerations

This study took place with permission of the principal investigators of a larger study that received approval from the University of Virginia's Institutional Review Board for the Social and Behavioral Sciences (IRB-SBS). The principal investigators approved my research questions and use of archival data. Throughout this study, I maintained ethical considerations in several ways. All participants consented to participate in the study on a voluntary basis. During interviews, researchers asked participants for consent to participate and be recorded and reminded that their participation was voluntary, and participants could withdraw consent at any time. The project received parent or guardian permission to use data and observe students who participated in the summer intersession. The data collection procedures were designed to be sensitive to anonymity and confidentiality. For example, participants' interview recordings were professionally transcribed then destroyed. Data were stored in an encrypted, cloud-based program called Box with limited, password-protected access. Pseudonyms were assigned to each school and participant.

Chapter Summary

In this Methods chapter, I described the research design and purpose of this qualitative, descriptive case study. Next, I provided an overview of the site, Fairland County School district, and the context, including sampling decisions and participant descriptions. I also situated this Capstone project study within the larger Project Kaleidoscope research project by describing interventions, like the curriculum, summer intersession, and professional development, relevant to my study. Next, I explained the rationale for several data sources, data collection procedures, and my plan for data analysis. Chapter 3 concluded with a discussion of my role as researcher and positionality and how I established trustworthiness and ethical considerations.

Chapter 4: Findings

This study focused on the need to increase identification of underrepresented students in Fairland County School District. Two approaches to addressing the problem of underrepresentation include broadening teachers' conceptions of giftedness and supporting teachers in developing a deeper understanding of how potential, gifts, and talents manifest in primary-grade students. Project Kaleidoscope applied these approaches through providing professional development related to talent development and training teachers to use an observational tool designed for underrepresented students (the TABs). In addition, Project Kaleidoscope supported a summer talent development program designed for students to exhibit their potential, gifts, and talents outside of a traditional school setting. This Capstone Project sampled archival data from the larger grant, Project Kaleidoscope, using data from the 2019 Summer Intersession in Fairland County. Data sources included observations, an interview, teacher-collected data, TABs forms, and student work products. The following research questions guided this study to address the problem of practice:

- Given the unique context of the summer intersession, to what extent did teachers make note of and talk about student outputs as indicative of potential, gifts, or talents?

- To what degree do the things teachers make note of and talk about align with the content of the TABs, the curriculum, professional development modules, and summer intersession teacher training?

As a result of this study, five findings emerged through data analysis and interpretation. During the summer intersession, teachers recognized the potential, gifts, and talents of students from underrepresented populations who were overlooked during the school year, including English Learners. Several factors contributed to teachers' ability to identify students' potential,

gifts, and talents: the application of the TABs form as an observational tool, the design of the curriculum, the process of data collection, and teachers' preparation through professional development. The teacher training and professional development modules supported teachers' preparation to enact a system of data collection and observe using the TABs form to so that they could better recognize a wide range of potential, gifts, and talents. However, the quality of the teacher-collected data varied, and teachers interpreted the data in terms of talent recognition on a limited basis. Furthermore, teachers' emphasis on "good" behavior and self-regulation became barriers to recognizing student potential.

Teacher noticing, this study's theoretical framework informed data analysis and interpretation. Teacher noticing refers to teachers' processes of observing notable events or important information about students during instruction and involves several features: observing, interpreting, and reasoning about what is observed (van Es & Sherin, 2002). Results indicated that throughout the summer intersession, teachers often closely observed students' traits, attributes, behaviors, and verbalizations and interpreted these as indicating potential, gifts, and talents. The second feature of teacher noticing, interpreting, involves connecting what is observed to broader principles of teaching and learning (van Es & Sherin, 2002), such as conceptions of giftedness. As explained in Finding 4, teachers often took notes and observed behaviors that likely indicated gifts and talents, but they did not always explicitly interpret student data as representing potential giftedness and talents. However, teachers may have implicitly interpreted student outputs as representative of potential, gifts, and talents throughout the study, without explicitly stating during the interview or observations. In this study, the framework of teacher noticing supported a more nuanced approach to understanding how teachers collected and interpreted (or did not) student data they collected. In Finding 1, teachers

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recognized potential in several students who were formerly overlooked during the school, because they observed students' behaviors and other outputs and interpreted student data as indicative of giftedness when they stated they would refer students for gifted services at the end of the summer intersession.

Finding 1: Teachers Recognized Potential, Gifts, and Talents Among Students from Underrepresented Populations

Teachers successfully recognized potential, gifts, and talents among students from underrepresented populations who attended the summer intersession; these students were formerly overlooked for gifted identification at their school. Ms. Branson described how the summer intersession experience allowed her to view students from a fresh perspective:

> Branson: I think it's been really interesting and fun and different – experiences that they won't have during the normal school year. And this is one of the things I love. **I don't know who the readers are, and I don't know which ones like struggle with anything.**
>
> Leighann: Oh yeah.
>
> Branson: It's just they're here and participating in what we're doing, so **it's fun to see them without those parameters**. (Interview, 7.22.19)

Ms. Branson pointed out she was able to see students without the usual "parameters" during the summer intersession, because she did not know about students' reading ability or their academic struggles. The quotes above indicated that Ms. Branson perceived students in new ways during the summer intersession.

Furthermore, Ms. Clark emphasized she saw "more" from students during the summer intersession than she did during the school year, noting "I'm seeing more from the kids than I saw in their classrooms." (Interview, 7.22.19). During the exit interview, Ms. Clark[3] discussed

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[3] During the school year, Ms. Clark, in her role as gifted resource teacher, conducts universal screening lessons for entire classrooms of children. During those screening lessons, she had previously met many of the students who attended the summer intersession.

opportunities to interact more closely with students: "…some of them are so quiet that having this…they're not getting lost in it. And I'm able to interact with them a little bit more, so that's helpful" (Interview, 7.22.19). The context of the summer intersession, which included a small class size and a co-teacher, supported increased interaction between teachers and students. This interaction likely supported teachers' opportunities for recognizing students' potential. Ms. Branson added that the setting of the summer intersession encouraged students to take risks and apply effort: "I think we're seeing more out of them, overall, I think. [Students are] more willing to take chances and try" (Interview, 7.22.19). Both teachers explained how the unique setting of the summer intersession provided opportunities for them to closely observe students and note evidence of students' potential, gifts, and talents.

Teachers identified several students, Mia, Jaime, Flora, and Lucas, who they referred for gifted services.[4] Teachers described how Mia, a rising first grader and English Learner, stood out during the summer intersession due to her motivation and creativity, yet Ms. Clark, the school's gifted resource teacher, did not notice evidence of Mia's potential during the school year.

> Clark: Another one is Mia. She's one that was extremely quiet and did not stand out in her regular classwork when I would go in for lessons in the classroom.
>
> Leighann: So, even when she was in smaller lessons or whole class lessons?
>
> Clark: When I went in to do screening lessons in first grade, it was the whole class. And yeah, her individual work wasn't any different from what a normal first grader would be but in here, I'm like blown away at some of the things that she's done.
>
> Branson: Yeah.
>
> Clark: That stained glass animal pattern that she did. And she's answering questions in here, which she never answered questions in her classroom.

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[4] Teachers identified potential, gifts, and talents using the TABs form for all students, except for two. One student, Jaime, only attended for one day. Teachers wrote on another student's, Kylie's, TABs form that she copied other students and the teachers circled no TABs categories on the form. Mia, Jaime, and Flora were English Learners who received EL services and identified as Hispanic. Lucas was identified as Two or More Races.

Branson: I mean she just engaged every single time in whatever we're doing. So, she definitely stands out. (Interview, 7.22.19)

Both teachers emphasized that Mia stood out because she was engaged, answered questions often, and created exemplary artwork. When filling out the final TABs form, teachers selected several categories for Mia, including Communication Skills, Insight, Motivation, and Reasoning. Mia attended all eight days of the summer intersession, and teachers collected eight sticky notes about her.

Teachers also described how they saw "more from" another student, Lucas, during the summer intersession compared to the school year.

Clark: …**he's [Lucas is] one that I see more from now**. I think in his classroom when I would do lessons, I would get verbally from him, but then when it came time to do the activity, it wasn't there.

Branson: And the first day, he was the one that was kinda saying with Austin's Butterfly to change the wings and…

Branson: A fossil is like a dinosaur. So, I mean **he's making some connections**.

Clark: Yeah, and **he's got some background knowledge that he's brought in, too**. (Interview, 7.22.19)

In this excerpt, Ms. Clark explained how Lucas exhibited more evidence of talent during the summer than the school year. Ms. Branson and Ms. Clark noted that Lucas paid close attention to detail during the Austin's Butterfly activity[5], made connections between ideas, and drew upon background knowledge. Teachers wrote down these examples on 11 sticky notes and later referred to their notes when asked to reflect on Lucas' potential during the exit interview. Lucas attended all eight days of the summer intersession and at the end of the program, teachers

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[5] For the Austin's Butterfly activity, students watched a video about Austin, a boy who learned to closely observe a photograph of a butterfly, and then draw a detailed, scientific illustration of a butterfly. Next, students practiced closely observing an image and creating a detailed rendering.

indicated on the TABs form six categories that described Lucas: Motivation, Insight, Inquiry, Communication Skills, Memory, and Reasoning.

Overall, several contextual factors, including the curriculum, small-class sizes, and student-teacher interaction, contributed to an environment that enabled teachers to make note of and talk about evidence of students' potential, gifts, and talents. Both teachers emphasized that they noticed new things about students' potential that were either not exhibited or not noticed during the school year.

Finding 2: The Curriculum Encouraged Talent Development and Recognition

One purpose of the summer intersession was to provide opportunities for teachers to observe students in new ways through the lens of a high-quality curriculum, outside of the confines of a typical school day. The curriculum met this goal by providing open-ended learning experiences that afforded opportunities for teachers to observe a wide range of evidence of potential, gifts, and talents. These learning experiences encouraged higher-level thinking and creativity, and thereby, stimulated students to exhibit their potential. The curriculum's role as a talent-spotting tool was amplified, because it was specifically aligned to the TABs form (see Figure 4.1); certain learning experiences were designed to elicit students' performance in specific TABs categories.[6]

The curriculum represented a two-pronged approach to talent development and recognition. It stimulated students to develop and exhibit talents through the design of the learning experiences and provided a venue for teachers to observe evidence of students' potential. potential. The curriculum and related resource materials allowed students to display evidence of potential, gifts, and talents as they engaged in the following processes: creativity,

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[6] See Chapter 3 for a detailed description about how specific learning experiences were intentionally aligned to the TABs form. See Appendix A for a larger version of the TABs form

reasoning, inquiry, and problem-solving. Indeed, aligning specific learning experiences to the

TABs categories supported teachers in the talent-spotting process, which is evident in the data

teachers made note of and talked about (see Finding 3 for more detail).

Figure 4.1

TABs Form

TABS: Frasier's Traits, Attributes and Behaviors   STUDENT NAME: _____

Guide: This is a guide for observing students in your classroom. As they show evidence of extraordinary potential, highlight the traits below.

INTERESTS Intense interests (something unusual)	MOTIVATION Evidence of desire to learn	INQUIRY Questions, experiments, explores	INSIGHT Quickly grasps new concepts And makes connections; senses deeper meanings	HUMOR Conveys and picks up on humor well
GENERAL DESCRIPTION Activities, avocations, objects, etc., that have special worth or significance and are given special attention	GENERAL DESCRIPTION Forces that initiate, direct and sustain individual or group behavior in order to satisfy a need or attain a goal	GENERAL DESCRIPTION Method of process of seeking knowledge, understanding or information	GENERAL DESCRIPTION Sudden discovery of the correct solution following incorrect attempts based primarily on trial and error	GENERAL DESCRIPTION Ability to synthesize key ideas or problems in complex situations in a humorous way; exceptional sense of timing in words and gestures
HOW IT MAY LOOK Unusual or advanced interests in a topic or activity; self-starter; pursues an activity unceasingly; beyond the group	HOW IT MAY LOOK Persistent in pursing/completing self-elected tasks (may be culturally influenced evident in school or non-school activities); enthusiastic learner, has aspirations to be somebody, do something	HOW IT MAY LOOK Asks unusual questions for age; plays around with ideas; extensive exploratory behaviors directed toward eliciting information about materials, devices or situations	HOW IT MAY LOOK Exceptional ability to draw inferences; appears to be a good guesser; is keenly observant; heightened capacity for seeing unusual and diverse relationships, integration of ideas and disciplines	HOW IT MAY LOOK Keen sense of humor that may be gentle or hostile; large accumulation of information about emotions; capacity for seeing unusual relationships; unusual emotional depth; openness to experience; sensory awareness
COMMUNICATION SKILLS Highly expressive with words, numbers and symbols	MEMORY Large storehouse of information (on school or non-school topics)	REASONING Logical approaches to figuring out solutions	PROBLEM SOLVING ABILITY Effective (often inventive) strategies for recognizing and solving problems	IMAGINATIVE CREATIVITY Produces many ideas; highly original
GENERAL DESCRIPTION Transmission and reception of signals or meanings through a system of symbols, codes, gestures, language and numbers	GENERAL DESCRIPTION Exceptional ability to retain and retrieve information	GENERAL DESCRIPTION Highly conscious, directed, controlled, active, intentional, forward-looking and goal- oriented thought	GENERAL DESCRIPTION Process of determining a correct sequence of alternatives leading to a desired goal or to successful completion or performance of a task	GENERAL DESCRIPTION Process of forming mental images of objects, qualities. Situations, or relationships which aren't immediately apparent to the sense; problem solving through non- traditional patterns of thinking
HOW IT MAY LOOK Unusual ability to communicate (verbally, non-verbally, physically, artistically, symbolically); uses particularly apt examples, illustrations or elaborations	HOW IT MAY LOOK Already knows; 1-2 repetitions for mastery; has a wealth of information about school or non- school topics; pays attention to details; manipulates information	HOW IT MAY LOOK Ability to make generalizations and use metaphors and analogies; can think things through in a logical manner; critical thinker; ability to think things through and come up with a plausible answer	HOW IT MAY LOOK Unusual ability to devise or adopt a systematic strategy for solving problems and to change the strategy if it's not working; creates new designs; inventor	HOW IT MAY LOOK Shows exceptional ingenuity in using everyday materials; is keenly observant; has wild, seemingly silly ideas; fluent and flexible producer of ideas; Elaborate; highly curious

Specific kinds of learning experiences encouraged teachers to collect data aligned to

TABs categories and make note of and talk about students' potential, gifts, and talents. For

example, when students engaged in open-ended, complex games or puzzles that required higher-

level thinking skills (i.e, Oceans Tessellations puzzle, Pengoloo game), teachers observed

students' potential and emergent abilities. Additionally, the curriculum afforded many

opportunities for students to engage in creative, open-ended tasks when teachers could observe

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students' behavior related to TABs categories including Motivation, Interests, and Imaginative Creativity[7]. During the process of creating artwork, students could express their ideas, thoughts, and understanding of concepts in ways that reduced literacy as a barrier to expression. These types of learning activities provided more opportunities for teachers to spot talent by observing TABs-aligned performance indicators that served as evidence of potential, gifts, and talents.

Recognizing Higher-Level Thinking Processes as Evidence of Potential, Gifts, and Talents

Learning experiences, such as games or puzzles, that encouraged students to engage in higher-level thinking processes enabled teachers to observe as students applied problem-solving and reasoning strategies and drew upon memory. For several students, teachers referred specifically to students' work habits or actions during the Ocean Tessellation puzzle and the Pengoloo game (refer to Chapter 3 for more detail about these two learning experiences). Table 4.1 displays direct quotes from several TABs categories, including Motivation, Problem-Solving Ability, Memory, and Interests.

Table 4.1

Teachers' Notes on Students' Completed TABs Forms

Student Name	TABs Form Content
Braden	Under the Motivation category, teachers wrote: "task commitment with tessellations"
Finn	Under the category Problem-Solving ability, teachers underlined "adopt a systematic strategy." Teachers wrote "Pengoloo" on the form
Gabi	Under the Interests category, teachers wrote "task commitment with pattern shape puzzles."
Oliver	Under the category Problem-Solving Ability, teachers underlined: adopt a systematic strategy, change the strategy if it is not working. Teachers wrote in this category: "Won 2 games of Pengoloo"

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[7] For more information about how learning experiences supported students' engagement in creative, open-ended tasks, see the discussion of Observation Station and Imagination and Application Station in the Chapter 4 section "Stations."

An analysis of the data in Table 4.1 suggests that these learning experiences, which required students to apply higher-level thinking skills, allowed teachers to observe students' potential in several TABs categories. They later recorded these observations when completing the final TABs form at the end of two weeks.

Teachers noted that these students exhibited task commitment and concentration and applied strategies while playing Pengoloo or working the Ocean Tessellation puzzle. As students engaged with the game and puzzle, teachers walked around and observed students closely (Observation, 7.18.19). Learning experiences that prioritized students' application of higher-level thinking skills were purposefully aligned to TABs categories, and this intentional design amplified teachers' opportunities to spot talent and collect meaningful student data.

While puzzles and games primarily highlighted the TABs categories of Motivation, Problem-Solving Ability, Memory, and Reasoning,[8] open-ended, creative art activities inspired students to develop and exhibit their creativity, interests, and motivation, and provided teachers with talent-spotting opportunities in the following TABs categories: Imaginative Creativity, Interests, Motivation, and Communication Skills.

Recognizing Creativity, Interests, and Motivation while Reducing Literacy as a Barrier

Open-ended, creative learning activities provided opportunities for teachers to make note of and talk about students' motivation, interests, and creativity, while reducing literacy as a barrier. These learning experiences were designed to be interactive, creative, and flexible to inspire student expression; furthermore, these interactive lessons also asked students to apply concepts like patterns, vision, and observation. Creativity and autonomy went hand-in-hand during these learning experiences, because often students were provided with choices about what

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[8] The titles of specific TABs categories are capitalized.

they would like to create. They could choose among prompts or activities that inspired artistic creation at the Imagination and Application Station or Observation Station. The element of choice and availability of many art supplies encouraged students to pursue interests and exhibit autonomy.

This emphasis on artwork also encouraged students to communicate through multiple modes of expression (writing, speaking, and drawing, painting, or sculpting) in order to elicit students' cognitive understandings. In turn, multiple options for expression reduced literacy skill demands, because writing was not always required to express ideas; therefore, literacy became less of a barrier to expression for students. In the excerpt below, Ms. Branson and Ms. Clark discussed how they observed students' interests and engagement during artistic activities.

> Branson: **Really, they've gotten more into it. Like the patterns and the animals, they really liked. And then today, I think they were really excited about that. I actually got more out of journals today than some of the other days**.
>
> Leighann: The art postcards and the favorite colors?
>
> Branson: Yeah. So, I think **overall they've been pretty into it**…
>
> Clark: …**I do see them willing to try the things that we're doing, especially like in our Imagination [and] Application Station and like the paint mixing today.** They absolutely loved getting in there. And I think it teaches them more, too, about – they might be unsure that yellow and blue makes green, but after all of that, they know. So that part of it, it's really good. I was really excited about the curriculum this year and the way it's based science and art, so yeah.
>
> Branson: I think so, too. I think that **it's interesting to the kids and just overall**, I think **it's been really interesting and fun and different – experiences that they won't have during the normal school year...** (Interview, 7.22.19)

Teachers emphasized the high level of student interest and engagement with creative learning experiences in contrast to the school year. The fun, open-ended, and creative nature of the summer curriculum encouraged teachers to view students from a fresh perspective, even if they knew them during the school year.

Creative, flexible learning experiences also provided opportunities for teachers to observe students' motivation, levels of concentration, and attention to detail. The teachers observed that several students paid close attention to detail when creating artwork. For example, at the Imagination and Application Station, students paid close attention to detail when they imitated from postcards that represented classic works of art. Some of the prompts for creating art asked students to practice a disciplinary skill, such as observing closely like an artist or scientist. Other creative learning experiences, like Animal Pattern Designer, required students to apply their understandings of central concepts of the unit, such as patterns. While students worked, sometimes teachers asked students about how they created their artwork and students explained the thought processes behind their art. Ms. Clark noted: "…the ones that picked the postcards were definitely going back and forth. And even if the picture didn't match, like Walker was able to tell me which part he drew and why he drew it, and he was definitely taking the time to look back at it. I think they really liked the snake thing and the animal patterns" (Interview, 7.22.19). As students engaged in the open-ended task of creating art, teachers observed students' work habits and their levels of interest, persistence, focus, and level of detail. For example, teachers wrote on a sticky note that Oliver was "very detailed with art" and while Oliver created a drawing, Ms. Branson commented "Good job with the shadow, Oliver, I like that" (Observation, 7.22.19). Ms. Branson noticed the level of detail and use of artistic technique while Oliver created artwork at the Imagination and Application Station. As teachers observed students engaging in artistic processes, they had a chance to notice performance indicators described on the following TABs categories: Motivation, Imaginative Creativity, and Communication Skills.

Several features of the curriculum design supported teachers in recognizing talent in students from underrepresented populations. Learning experiences were interactive, creative, and

open-ended learning, so that the curriculum engaged students and allowed them to exhibit their

potential, gifts, and talents each day. The intentional alignment between the TABs and the

curriculum had a synergistic effect, because students could clearly exhibit TABs performance

indicators, and then teachers could observe those TABs indicators. Finally, the learning

experiences were designed to reduce literacy as a barrier by providing students with choices and

multiple ways to express their ideas and creativity. With these three contributing factors, the

curriculum effectively played a role in supporting teachers in the process of recognizing the

potential, gifts, and talents of students from underrepresented populations.

Finding 3: Using the TABs Helped to Guide Teachers' Recognition of a Wide Range of

Indicators of Potential, Gifts, and Talents

The TABs effectively guided teachers to recognize a wide range of evidence as indicative

of potential, gifts, and talents. The curriculum provided a stage and rich content for many talent-

spotting moments and the TABs form and curriculum worked synergistically. The TABs form

worked effectively as an observational tool, because it guided teachers to recognize a wide range

of behaviors as evidence of potential, gifts, and talents. Indeed, the categories and accompanying

descriptions on the TABs shaped what teachers observed and the data they collected. Broadening

the content of student data supported teachers in recognizing students who were overlooked

during the school year. TABs categories included specific descriptions and performance

indicators, which were informed by research-based characteristics of giftedness and talent, broad

conceptions of giftedness, and a talent development philosophy (Fraser et al., 1995). These

descriptive categories helped teachers to organize the evidence they collected about students and

interpret that evidence. The TABs form's content and purpose also influenced teachers by

encouraging the process of close observation and data collection and emphasizing an inclusive

definition of gifts and talents.

The combination of close observation and data collection may have increased teachers'

recognition of students from underrepresented populations. For example, while observing

students with the goal of completing the TABs form, teachers collected several pieces of data

about each student during instruction. They referred to this "sticky note" data and interpreted it

as evidence of potential, gifts, and talents when they completed the TABs forms. Teachers

completed 14 TABs forms and selected between 1-7 categories for each student. Sometimes

teachers added a handwritten comment or underlined words or phrases on the form, as well.

Table 4.2 illustrates the extent to which teachers made note of students' potential, gifts, and

talents for each category on the TABs form.

Table 4.2

Frequency of TABs Category Selection by Teachers

Category	Frequency on Completed TABs Forms
Communication Skills	6
Humor	3
Imaginative Creativity	5
Inquiry	1
Insight	8
Interests	8
Memory	6
Problem-Solving Ability	2
Reasoning	4

Insight and Interests were most often selected, followed by Memory and Communication Skills.

Instead of narrowly focusing on verbal achievement or math skills, which dominate school-based

definitions of giftedness (Matthews & Peters, 2018), the TABs form guided teachers to recognize

students' talents in many other areas. This created a bigger net through which to capture a wider

range of student potential, and thereby supports recognition of underrepresented students who may not fall into a narrow definition of giftedness.

The application of the TABs as an observational tool also structured and organized teachers' data collection which was impacted by the TABs categories. Indeed, almost all of the teacher-collected student data werealigned to a TABs category[9]. Table 4.3 displays examples of teacher-collected data for select TABs categories. Interpretations are included to contextualize the data by describing the context of the lesson and the designated TABs category. Table 4.3 demonstrates how teachers applied their understanding of the TABS to collect student data. As a result, teacher-collected data represented a wide range of student behaviors and evidence of potential, gifts, and talents covering all TABs categories.

Table 4.3

Alignment of Student Data to TABs Categories with Context

Category	Content of Teacher-Collected Student Data	Interpretation and Context
Communication Skills	"5 senses activity: spicy, salty, sandy, spelled out, (chchch)"	During the Five Senses Rotation activity, teachers noted that Arianna wrote out specific adjectives to when asked to write sensory descriptions. They noticed that she used an onomatopoeia. The TABs category description for Communication Skills states: "highly expressive with words."
Inquiry	"came up with questions when asked/prodded"	The TABs form describes Inquiry using the following performance indicators: "questions…explores," "asks unusual questions for age; plays around with ideas..." and "…behaviors directed toward eliciting information about materials, devices, or situations." Students had several opportunities to formulate questions for further inquiry, especially in response to read aloud books about patterns in nature (*Lots and Lots of Zebra Stripes: Patterns in Nature)* and animal vision (*What If You Had Animal Eyes?*).
Interests	"monster trucks" and "transportation"	Here teachers noted two topics that were of strong interest to Adam. The TABs form denotes "Interests" when students exhibit an "intense interest" or "unusual or

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[9] See Finding 6 for a discussion of teacher-collected data that did not align to the TABs.

		advanced interests in a topic or activity." These interests do not need to be school-related activities or knowledge.
Memory	"symmetry means same sides" and teachers asked: "who helps animals?" student replied: "a vet."	Teachers recorded these direct quotes from Arianna. She drew on her background knowledge about certain topics to answer questions posed by the teacher. She recalled the definition of symmetry and she also had knowledge of what a veterinarian does. The TABs form describes Memory as an "exceptional ability to retain and retrieve information."
Problem-Solving Ability	"Realized he needed to remember where the colors were if he was going to win."	This teacher note is related to the Pengoloo game, which required application of memory and strategy. The game can be played using trial and error, or players can memorize the locations of each color and then apply that knowledge and problem-solve. Here the teacher noted when a student understood how to strategize to win the game.
Reasoning	"Wrote Scarlet King Snake answer using the color pattern"	For this learning activity, students learned about two different patterns on Scarlet King Snakes and Coral Snakes. The patterns on each snake are the same three colors, but in a different order. This activity intended for students to identify and understand patterns in nature, then apply their understanding to identify a poisonous and a non-poisonous snake. In this note, a teacher noted that the student was able to make an inference by applying her new knowledge of specific patterns.

In the exit interview, when asked about their data collection processes and what types of things they wrote down about the students, teachers described ideas from several TABs categories, such as Humor, Insight, and Memory. When asked about their data collection process, teachers said:

Branson: I think a lot of them are just – **if there was something that somebody said and we both kinda looked at each other, we likely wrote it down.**

Clark: And some of it's – not grammar – vocabulary. Sometimes **humor and unusual observation,** things like that.

Branson: **Connecting things**.

Clark: Yeah, **making connections.**

Leighann: A lot of things that they have said mostly.

Clark: Or that **quick memory**, like remembering something we had done earlier or the day before the day after?

Leighann: Okay, so relating it back to something else and making a connection?

Clark: Like when I held up the beads and they were like "that's the snake pattern." And then **we wrote down who noticed it was the coral snake**. (Interview, 7.22.19)

As they described the content of student data they noticed, teachers stated they collected data that illustrated "humor," "unusual observation," "making connections," and "quick memory." As displayed in Table 4.2, teachers selected the Insight category most often when they completed the final TABs forms, and Insight focuses the process of making connections and inferring. In the excerpt above, in addition to Insight, teachers also mentioned recall and students' application of concepts, like patterns. The excerpt also illustrates that teachers often observed students' actions and things they said, and then made a judgment of the data when they interpreted a student's words or behavior as notable enough to write down. This means that teachers implicitly recognized some of students' words or actions as evidence of students' potential, gifts, and talents. Teachers took notes and talked about students' work products, like artwork or journal entries, less often than students' behavior or what they said.

Throughout the summer intersession, students exhibited evidence of potential, gifts, and talents that were aligned to the performance indicators on the TABs form (Fraser, et al., 1995). The extent to which teachers noted examples of students' behaviors as evidence of potential, gifts, and talents increased through the use of the TABs. Teachers made note of and talked about student behavior in relation to *all* of the categories on the TABs, which may have been made possible because through using the TABs, teachers' collected a wider range of data that aligned with all of the TABs categories. Indeed, it seems that this TABs-influenced data collection process supported the broadening of teachers' conceptions of giftedness. Collecting data for the

TABs also supported teachers in talent-spotting because they noticed a diverse set of student outputs from underrepresented students, and then they interpreted those outputs as indicative of potential, gifts, and talents, either implicitly or explicitly. In summary, applying the TABs as an observation tool successfully broadened the content of the student data teachers collected, and thereby nudged teachers to engage with broadened conceptions of gifts and talent in young students.

Finding 4: Teachers Actively Engaged in Data Collection, but Missed Opportunities for Interpretation

Using the TABs, teacher training, and certain learning modules may have supported teachers to focus on and prepare to actively engage in data collection during the summer intersession. The TABs served as a scaffold, because it supported and guided teachers to observe students closely and collect data. Additionally, filling out the TABs was an outcome goal; teachers knew that at the end of the intersession, they would need to complete a TABs form about each student**.** This goal was reinforced throughout the teacher training. The Project Kaleidoscope team spent time describing possible systems of data collection and analyzing examples of student data. During the training, teachers had dedicated time to share their ideas for data collection with the group, and they worked with their co-teacher to plan a data collection system. Yet when asked about their system of data collection during the exit interview, Poplar Elementary School teachers did not mention the teacher training or the online learning modules directly. These professional development experiences may have influenced teachers' emphasis on collecting data and referring to the TABs form, however, teachers did not seem to make the transfer of knowledge related to data analysis and interpretation from the professional development experiences.

Teacher Data Collection Practices

During the 2019 teacher training, Project Kaleidoscope presenters emphasized collecting data as a necessary way to closely observe students and aid in completion of the TABs form. At Poplar Elementary, both teachers frequently collected and discussed student data and made an effort to collect data about all students. Both during and after instruction, teachers took notes and talked about student data. Teachers often carried around their curriculum texts and wrote on sticky notes on the text. Often while one teacher led a lesson, the co-teacher took notes about students on the sticky notes. For example, on Day 4, Ms. Clark was leading a read-aloud and Ms. Branson was collecting data; in my observational field notes, I wrote: "Ms. Branson is taking notes with sticky notes on her curriculum book. She is writing student data notes" (Observation, 7.18.19). After class, teachers moved the sticky notes to a white sheet of paper labeled with each student's name. Sometimes teachers also labeled each piece of data with the day it was collected.

Teachers collected data about all students who attended the summer intersession. Table 4.4 displays the number of sticky notes collected per student. However, some students did not attend all eight days.

Table 4.4

Student Attendance and Amount of Data

Student	# of Sticky Notes	# of Days Attended
Adrian	6	8
Oliver	4	8
Adam	11	8
Arianna	6	7
Alexandra	5	8
Flora	11	8
Gabi	6	8
Hayden	10	8
Karl	2	1
Kylie	1	4
Lucas	11	8
Mia	10	8

Walker	6	8
Jaime	2	1
Braden	3	5
Finn	8	4

The amount of data for each student varied, which may be based on several factors, such as student attendance or perhaps how much each student spoke or participated in class. I did not delve into what determined the amount of data for each student, because my research questions focused on how teachers discussed the data they collected and how they interpreted that data in regard to recognizing student potential. However, future analyses of this data could focus on specific cases within the classroom, and the relationships between student attendance, student-teacher interaction, and amount and content of data collected.

Teachers referred to student data when they discussed students after class. They talked about how much data they collected for each student and what stood out to them that day about certain students. Much of the data that teachers collected described students' behaviors, actions, work habits, or direct quotes or paraphrases of things students said. Teachers also referred to examples of student work, like when they wrote down and later discussed students' ideas on a communal Anchor Chart. Although data collection occurred frequently, not all pieces of data were of equal quality; some of the data would not be useful for interpreting the presence of potential, gifts, and talents. Additionally, teachers did not write down everything they talked about or noticed, perhaps because they were busy leading or they did not have time. While teachers engaged actively in data collection, they did not always analyze the quality of the data. They also overlooked meaningful data that would be helpful for interpreting students' potential, such as student work products.

Emphasis on Data Collection, Not on the Quality of Data for Talent Recognition

Teachers took time after class on Day 1 and Day 4[10] to discuss how much data they collected for each student and what they noticed about students. In the excerpt below, both teachers and the teaching assistant Tara[11] discussed the data they had collected on Day 4.

> Ms. Clark is organizing the sticky notes with student data onto each student's page of white paper. She comments that she finally "got one" for Alexandra today. Some students have about 5 sticky notes, others 1 or 2.

> Tara says that she was just writing down whatever kids said, even if it was not like, 'Wow!'

> Ms. Clark says she told her that it does not have to be "great," we just need to get data.

Participation in the research study may have influenced the teachers' motivation to collect data. Since data collection was emphasized during teacher training, and teachers were paid for the training and teaching during the summer intersession, teachers may have believed that collecting data for each student was part of the job description.

This excerpt demonstrates that Ms. Clark may have perceived data collection as an end in itself, instead of a means to an end; she emphasized that when collecting student data, "it does not have to be 'great,' we just need to get data." In the excerpt above, Ms. Clark mentioned that she "finally 'got one' for Alexandra today" (Observation, 7.18.19). Ms. Clark wrote down "bees, snails, and peacock tails all have patterns" on a sticky note about Alexandra, a comment which occurred during the read aloud. Alexandra was often quiet, and based on this quote, Ms. Clark seemed to be making an effort to collect several sticky notes about every student. However, at this point in time, she did not take the next step to interpret the content of Alexandra's sticky note or relate this data to skills indicated on the TABs form, like making thoughtful inferences or unusual connections (as described in the TABs category: Insight). Therefore, although Ms. Clark

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[10] Project Kaleidoscope observers were not present every day of the summer intersession, so we could not observe their data collection on all eight days.

[11] Tara was a high school student who worked as a teaching assistant, and she is also Ms. Clark's daughter.

wrote down Alexandra's comment, she did not explicitly interpret it as evidence of potential or a particular TABs category. It seems that while Ms. Clark observed a notable moment that could be evidence of potential, she did not explicitly interpret or reason about that data in relation to her conceptions of giftedness. This was a missed opportunity for Ms. Clark to interpret data in meaningful ways in terms of talent recognition, perhaps through the lens of the TABs. However, it is possible that by selecting a student quote as notable enough to write down, Ms. Clark was indicating that this information was evidence of a student's gifts and talents.

Teachers prioritized collecting data about each student, even if it did not seem extraordinary in the moment during instruction. This approach is consistent with a developmental approach to recognizing and developing talent. All young students possess emergent aptitudes and abilities, and they may not exhibit manifested talents or gifts, but rather indicators of potential that must be further developed (Kaplan & Hertzog, 2016). Perhaps teachers felt that consistently collecting data would lead to a richer picture of each student, so that there would be more data to analyze for each student when completing their TABs form. Even if one piece of data did not seem extraordinary, maybe when the data were combined there would be a cumulative effect. However, Project Kaleidoscope observers were not present when teachers completed the TABs form on Day 8; they may have analyzed all of the sticky notes holistically at the end of the intersession. For this particular study, the effect of the sticky note data could only be understood through the analysis of the completed TABs forms, which is a relative limitation[12]. As discussed in Finding 2, teachers completed TABs for 12 of the 14 students, and selected 1-7 categories for each student. Therefore, it seems likely that the process

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[12] During the exit interview, teachers were not asked to describe their analysis of the student data they collected or how they completed the TABs form. This would be useful in a future study that focuses on understanding the gap between teacher data collection and interpretation for talent recognition.

of daily data collection impacted TABs form completion and talent recognition in some ways, although there were missed opportunities for data interpretation and analysis.

Discussing, but Not Analyzing Student Data

Teachers talked about and referred to student data after class, when they discussed the data they had collected that day; they also discussed things about students that they did not write down. The following excerpt from an observation on Day 1 shows teachers discussing things students said or student work after class. For context, on this day, students participated in an activity called the Five Senses Rotation where students practiced closely observing with each of their senses. They used manipulatives at each station and teachers or students took notes about what each student observed by writing or drawing on a communal Anchor Chart for each of the five senses. Students rotated through all five stations, so they wrote about all five senses. The following description takes place after students left for the day.

> With the teachers, we are all standing by the Anchor Charts. We talked about when the kids who made similes or metaphors and particular word choices. One of the kids made [created] an onomatopoeia.
>
> Arianna and Adam discussed how the "sugar cookie" candle smelled like pumpkin pie. Arianna drew a picture of a pumpkin pie and said it smelled like cinnamon and pumpkin pie. Oliver said a sound was "jittering." Ms. Clark and Ms. Branson referred to the Anchor Chart when they were doing their data meeting.
>
> Ms. Clark and Ms. Branson sit down to discuss each of the kids. Ms. Branson and Ms. Clark sit down with post it notes. They have been writing on pink post it notes in their curriculum books. (Observation, 7.15.19)

In the excerpt, teachers discussed students' use of language and interesting comparisons they made. Teachers found specific instances of student's creative use of language and creative comparisons notable enough to discuss after class, yet they did not write down all of these on their sticky notes. There was also a missed opportunity for teachers to interpret these notable moments in terms of the TABs categories, including Insight, Communication Skills, and

Imaginative Creativity. It is possible that teachers were thinking in terms of these TABs categories as they discussed students; however, they did not explicitly use the language of the TABs when discussing students, nor did they make a direct connection to talent recognition during this discussion.

As teachers discussed students and the data they gathered on Day 1, they sat down with sticky notes in front of them and moved their sticky notes from the curriculum text onto individual pieces of paper. In the excerpt below, teachers discussed Flora, Oliver, and Arianna.

> Branson: Flora had some… I wrote down that she said "He drew it right because he used the picture." –referring to talking about the Austin's Butterfly video.

> Branson: He [Oliver] is also the one that started making the connection between observing and using the five senses.

> The data collection sheets have collections of post it notes. Each piece of paper has the name of the day.

> Branson: Arianna. She came up with sounds for the anchor chart. Like chuk chuk chuk.
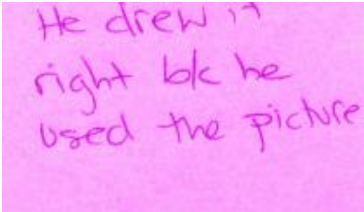
As teachers discussed students, they referred to content from the Anchor Charts and student verbalizations. Teachers also referred to sticky notes while they discussed students, but not everything that teachers said about students was written down on a sticky note. The data displayed in Figure 4.2, compared with the quotes from after class on Day 1, illustrates that teachers did not write down everything they noticed about students. Perhaps teachers were processing information about students by discussing what they noticed about students, but they did not deem everything they talked about as notable enough to write down and possibly interpret as evidence of potential, gifts, and talents.

Figure 4.2

Student Data Examples: Flora, Arianna, and Oliver
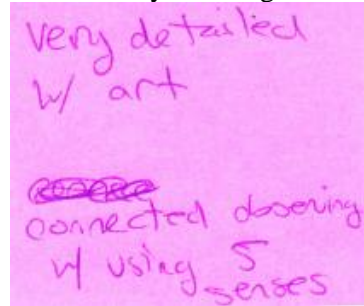
Flora
Ms. Branson noticed that Flora had an insight
about the Austin's Butterfly video:

Oliver
Ms. Branson shared one of Oliver's insights with
Ms. Clark by referring to her sticky note below:
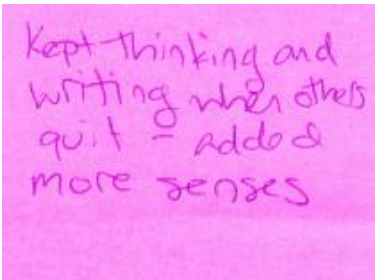
Arianna
Teachers noticed she created an onomatopoeia for
the "Hear" Five Senses Anchor Chart. Ms.
Branson wrote this note about her:

Teachers continued to discuss students and data collection after class on Day 4. They examined sticky notes while discussing several students they noticed that day: Oliver, Adam, Mia, and Braden. The excerpt below demonstrates that teachers were collecting data and referring to it while discussing students with each other.

Ms. Clark is looking at sticky notes and discussing with Ms. Branson.

Ms. Clark: This is all we had for Oliver, it's because I am so impressed by everything he says, so I don't…[pause] So the other ones, when Adam finally sits still long enough to… he busted out a couple things today.

Ms. Clark continued: See, we are always writing down Mia's stuff…

Ms. Branson: I know.

Ms. Clark: But then Mia. Mia keeps impressing me.

[pause]

Ms. Clark: Braden was more engaged today.

Ms. Branson: His little frog was awesome…

They look at the examples that the students did, which were sticky notes that went on the Anchor Chart where they were directed to identify patterns at home. Ms. Clark walks over and looks at it.

This excerpt suggests that teachers attempted to process the data, but it remains uncertain if processing the data always resulted in interpreting the data in terms of talent recognition. Teachers moved beyond data collection toward data analysis by examining specific pieces of student data from more than one source and talking about that data. However, this discussion also reveals a missed opportunity for teachers to deepen their interpretation of the data and explicitly connect it to talent indicators. Ideally, teachers could view data collection as a step that precedes thoughtful data analysis, not as an end in and of itself. The excerpt above highlighted a missed opportunity for teachers to engage in the talent recognition process through interpreting the data as relevant evidence for assessing students' potential. They could also analyze the data using the TABs form as a lens or apply the language of the TABs to their discussion of data, which would allow them to situate their discussion in the context of talent recognition.

Returning to this study's theoretical framework, teacher noticing, could shed light on the disconnect between observation and interpretation. Teacher noticing posits that first, teachers must identify what is important in a teaching situation; to do this, they must make distinctions between what is notable and what is not (van Es & Sherin, 2002). By collecting a piece of data or discussing a specific moment, Ms. Branson and Ms. Clark identified specific student behaviors or moments as notable or significant. According to the teacher noticing framework, once

teachers identify something as notable, then they must draw upon their knowledge, beliefs, and values in order to interpret what they observed (van Es & Sherin, 2002). Van Es & Sherin (2002) stated that in order for teachers to apply what they observed to inform their future actions, they must reason about their observations, and reasoning is the third step in the teacher noticing process. To reason, teachers must relate what they observed to the specific learning context and broader principles of teaching and learning (van Es et al., 2017). In this case, Ms. Branson or Ms. Clark could draw upon their conceptions of giftedness and talent to interpret the data as evidence of potential, gifts, and talents. In other words, the interpretation phase of teacher noticing for talent recognition would involve a teacher thinking something like, *Yes, this is notable, but is it evidence of potential, gifts, or talents*? Further, to reason about their observations, teachers might consider the sociocultural context, the lives of their students, the specific context of Poplar Elementary School, the context of the summer program, and how the TABs described potential and talent. To engage in the reasoning stage, teachers would need to systematically and explicitly consider their data in relation to the context and their conceptions of giftedness. However, at Poplar Elementary School, the teachers did not fully engage in the more reflective and challenging steps of teacher noticing: interpreting and reasoning, yet these steps are necessary for talent recognition.

In this Capstone project, teachers closely observed students, collected data, and began to interpret the data in meaningful ways. However, they did not fully interpret and reason about the student data, because they did not make clear connections to broader principles of teaching and learning, such as conceptions of giftedness, talent development, or expectations for primary-grade students' intellectual development.

A Missed Opportunity to Interpret a Meaningful Source of Student Data

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While teachers collected and discussed data, often they did not interpret the data and the quality of data for talent recognition varied. Yet there was another missed opportunity—teachers mostly overlooked a source of potentially valuable information—student work products like artwork and draw-and-write journals[13]. In previous sections of this finding, I described how teachers discussed specific pieces of data they collected on sticky notes, and this data mostly described what students said or did. Teachers did not often talk about or make note of student work products. Only two of the sticky notes appeared to address the content of a piece of artwork or a journal entry. For example, teachers wrote that Oliver was "very detailed with art." They described the overall content of Mia's journal entry: "detailed journal—tried to get a sentence for all senses." Student work products could be useful sources of information to systematically analyze for evidence of students' potential, gifts, and talents, yet it seems they were underutilized. Figures 4.3 and 4.4 provide examples of student artwork and a journal entry.

Figure 4.3

Mia's Artwork: Animal Patterns

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[13] It is possible that teachers analyzed these student work products when Project Kaleidoscope observers were not present.

Figure 4.4

Arianna's Journal Entry
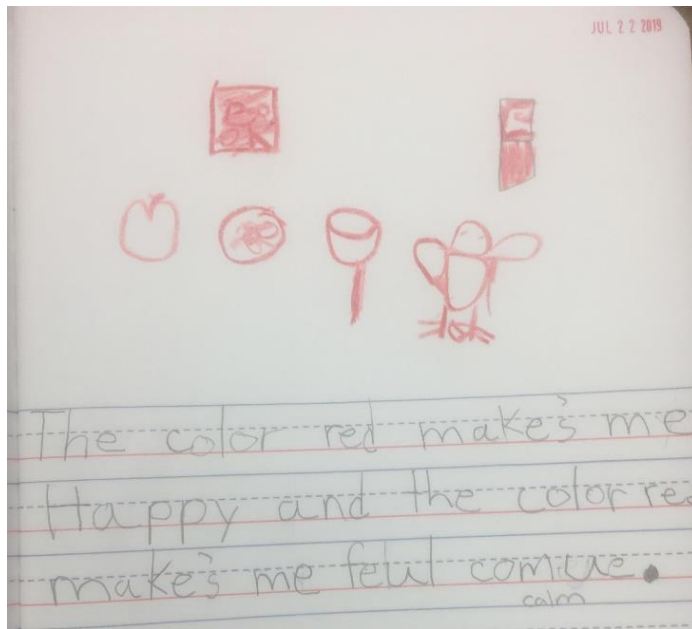
Although teachers rarely analyzed student work products, the professional development opportunities provided for summer intersession teachers emphasized the analysis of student work products specifically, as well as other types of data. At the 2019 teacher training, the Project Kaleidoscope team explained the talent development philosophy underlying the TABs and provided examples of student data that showcased evidence of student talent from previous summer intersessions. A presenter from Project Kaleidoscope asked teachers to comment on the examples of student artwork, writing, and an audio sample of a story, and then modeled how to analyze the student data in terms of the TABs. Although analysis of student data was modeled during teacher training, teachers were not asked to analyze each piece of student data systematically using the language of the TABs form on their own or with a partner. Modeling analysis of student data may not be enough support for teachers to enact this process in their classrooms; teachers may benefit from more direct, guided practice, including practice with several different sources of student data (see Chapter 5: Recommendations).

The teachers of Poplar Elementary also completed all online learning modules before teaching in the 2019 Summer Intersession. One of the modules, Module 11, focused on cultivating talent potential and recognizing talent. Module 11 intended to help participants to "separating literacy skills from talent potential and being a kid-watcher and a cultivator" (see Chapter 3 for a detailed description of this module). This module walked participants through a classroom scenario and focused on four fictional students and a teacher's observations of those students. The module also provided an analysis of the observation notes taken by the fictional teacher. The teacher's initial impressions and notes about students were reframed in terms of talent development and broader conceptions of gifts and talents. Module participants were asked to take notes about what they observed about fictional students and reflect on real students in their classrooms. Near the end of the module, participants were asked to reframe their initial observations of real students and reimagine their potential. This module served as a model for reframing observations of students and suggested several specific ways teachers could recognize and cultivate students' potential. Teachers were asked to engage in the module through reflection and writing about real and fictional students. However, there was a gap between information presented in the module and how teachers interpreted (or did not interpret) their observational data during the summer intersession. Likely, a lot of time had elapsed between module completion and teaching in the summer intersession. Further, like teacher training, the module mostly modeled for teachers what to do and asked them to consider what another teacher did. Perhaps reflecting on their own actual observations and student data could help teachers to better observe and interpret student data for talent recognition (see Chapter 5: Recommendations).

Overall, teachers successfully recognized talent in several students from underrepresented populations who were formerly overlooked, and several factors supported this process, including

the design of the curriculum, use of the TABs form as an observational tool, and teachers'

enactment of a system of data collection. On the other hand, there were missed opportunities for

analyzing all sources of data and interpreting data in meaningful ways, because teachers could

have analyzed student work products, like artwork and journal enries, in a more thorough

manner. Furthermore, the next finding will explain how teachers were distracted from

recognizing talent when they focused on "good" behavior and self-regulation, and this may have

limited their capacity to recognize the full extent of every student's potential, gifts, and talents.

Finding 5: Teachers' Focus on "Good" Behavior and Self-Regulation was as a Barrier to

Talent Recognition

Teachers talked about and made note of students' behavior, task orientation, and self-

regulation skills across several data sources. Often, they discussed students in terms of these

topics when asked about evidence of students' potential, gifts, or talents. This demonstrated that

teachers factored in "good" behavior as part of the process of recognizing or dismissing evidence

of students' potential, gifts, and talents. Teachers emphasized "good" behavior in the classroom

so much that it became a barrier to talent recognition for several students.

While they used the TABs form as a guide, teachers made note of and talked about

additional behavior that was not TABs-aligned. Some of the data were not relevant to talent

recognition; instead, it was related to assessing classroom behavior. When teachers wrote about

individual students on sticky notes, sometimes they mentioned a student's off-task behavior, like

when they wrote that Adam was "busy talking but answers questions." Teachers also wrote about

student behavior on the TABs form, even when there was no designated place to write this

information. On Arianna's TABs form, teachers wrote: "follows rules, does what is asked." On

Flora's TABs form, teachers wrote, "not paying attention but will supply answer," under the

category "Memory." Instead of describing evidence of students' potential, gifts, and talents, teachers instead focused on "good" behavior and off-task behavior. This focus emphasizes traditional conceptions of giftedness, such that gifted students should be perfect, well-behaved, and always attentive to the teacher. This focus is problematic, because it leads to many students with potential being overlooked (Harradine et al., 2014).

Teachers' expectations for students' behavior were not always developmentally appropriate for primary-grade students (Clark et al., 2017), perhaps because they were used to teaching older, elementary-grade students. For example, Ms. Clark was a K-5 Gifted Resource Teacher, while Ms. Branson often taught second grade; students enrolled in the summer intersession, as rising first and second grader students were slightly younger. Teachers' expectations were slightly restrictive and conflicted with the design of the summer intersession as a fun, flexible learning environment. The upcoming evidence will demonstrate that teachers valued "good" classroom behavior and held high expectations for students' self-regulation skills, which distracted them from identifying student potential in ways that aligned to the broader definition of giftedness presented by the TABs.

Teachers' Observations of Student Behavior and Task Orientation

Teachers created an award for "good" behavior that communicated their value for a limited range of student behavior: listening to teachers, not interrupting, always staying on-task, and following rules. On the last day of Week 1, during Closing Circle, teachers selected a few students to receive the "Turtle of the Week" award[14]. They did not implement the activities from the curriculum text for the Day 4 Closing Circle. Instead, they selected four students and

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[14] A turtle is the school mascot

rewarded them for "good" behavior, in a public display in front of all other students. While Ms. Branson announced the winners, Ms. Clark held a bag of prizes (Observation, 7.18.19).

> Branson: We've been watching all week to see who has been following the rules, and [being] respectful and turtle-ready.

> Clark: Following the rules and not interrupting. Some of you had done a really good job at that.

> Branson: Not everybody. Next week, we will have more turtles of the week. Maybe you can get one next week if you don't get one this week. [pause]

> Branson: I think Arianna would be a Turtle of the Week. You've done a fantastic job, always listening.

> Flora: What about me? Was I doing good?

> Branson: This is about people, every time we look at them, they are doing good.

In this excerpt, Arianna received the turtle award for "always listening." Oliver, Jaime, and Mia also received an award. In contrast, Flora did not receive the award, and in reply to Flora's question, Ms. Branson emphasized "every time we look at them, they are doing good." If students were not *always* listening and displaying good behavior, then they did not receive the turtle award.

After the students left, Ms. Branson and Ms. Clark described how they selected students. Ms. Clark stated: "…she wasn't sure who to choose for the second boy," because they wanted to choose two boys and two girls. And then she [Ms. Clark] said to me after class that, 'I didn't know who to choose. I was going to choose Lucas and he was on task for most days, but today he was like rolling around on the floor…Oh, Lucas wasn't behaving as well today. So, then I couldn't choose him'" (Observation, 7.18.19). Although Lucas was on task during most of the week, on Day 4, he "wasn't behaving as well," according to Ms. Clark, and therefore, he did not receive the award (Observation, 7.18.19). After class, Ms. Branson commented that Lucas "was

not as in it" today (Observation, 7.18.19). This illustrated that teachers monitored students for on-task behavior every day.

After class, teachers discussed why Jaime received a turtle award, and Ms. Clark emphasized that Jaime "really impressed me because when I was in his classroom, he was kinda like the instigator, and he would like poke the other kids to get them in trouble kinda stuff. I didn't see a bit of that in here. He was really participating and answering questions. (Interview, 7.22.19). In this excerpt, Ms. Clark contrasted Jaime's positive behavior in the summer intersession with his behavior during the school year; this contrast impacted teachers' perceptions of Jaime. They saw him in a positive light based on their definition of "good behavior," including focus, on-task behavior, and class participation. Taken together, these excerpts from Day 4 field notes and the exit interview demonstrated that the teachers valued "good" behaviors, such as being "turtle ready" (ready to listen to the teacher), "respectful," "always listening," and following rules. The excerpts also demonstrated that teachers made note of and talked about teacher-pleasing behaviors that were not aligned to the TABs form.

The public nature of the "Turtle of the Week" award, and teachers' choice to present the award as the culmination of Week 1 activities illustrated that teachers valued teacher-pleasing behaviors that are often reinforced as part of the dominant school culture. This was in direct contrast to the intentions of the summer program, which aimed to engage students in a summer-learning experience different than typical school, encouraging creativity and prioritizing students' autonomy and open-ended tasks. Furthermore, these enriched experiences were designed to help teachers view students in new ways, to notice and value creativity, intellectual risk-taking, inquiry, and students' original ideas. The program design intended to provide a curriculum and learning environment that encouraged teachers to move beyond traditional

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conceptions of giftedness. Often traditional conceptions of giftedness require students to act well-behaved; traditionally "gifted" students are perceived to be teacher-pleasers, and/or high-academic achievers. Overall, the Turtle of the Week award and the values it represented ran counter to the talent development philosophy and fun, flexible environment intended for the summer intersession. This was problematic because it limited opportunities for teachers to focus on evidence of students' potential, because they focused on evaluating behavior instead.

Teachers' Perceptions of Students' Behavior and Self-Regulation Skills

Teachers held high expectations for young students' self-regulation skills and capacity for on-task behavior (Center on the Developing Child, 2020; Dettmer et al., 2020), which interfered with the talent recognition process. The curriculum purposefully included interactive activities that involved movement, which is developmentally appropriate for primary-grade students. Teachers described their response to an interactive Day 3 activity, the pattern dance, when students danced along with children in a music video. First, teachers described students' behavior as a group. Ms. Clark stated, "we did learn that this crew, when they're active, they don't know how to bring it back down" (Interview, 7.22.19). Ms. Branson added: "They were like, wild." Ms. Clark continued, "Most groups, you get them to get the energy out and they're refocused." The teachers explained here that students should be ready to "refocus" and transition after engaging in interactive learning and movement. Next, Ms. Clark pointed out a specific student's inability to calm down: "Adam especially. He sees it as a ticket to just take off and I'm gonna do what I wanna do. I'm gonna move this way and I'm gonna spin in circles, and my feet are up in the air. (Interview, 7.22.19). Ms. Branson summed up this conversation: "…they're definitely a little squirrelier than most" (Interview, 7.22.19). Overall, the teachers seemed concerned that students did not "refocus" or "bring it back down" for the next activity

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(Interview, 7.22.19). Throughout the interview, often teachers brought up students' behavior when asked to discuss something else, such as student engagement, curriculum content and implementation, and if they would refer students for gifted services. Ultimately, teachers' attention to classroom management and on-task behavior was a barrier to the recognition of positive behaviors and evidence of potential, gifts, and talents.

Even when teachers recognized evidence of a student's potential, gifts, or talents, they also referred to self-regulation skills and work habits. For example, Ms. Clark described Adam during a painting activity, "Aside from being a huge mess, he was very engaged in the painting" (Interview, 7.22.19). Ms. Clark prefaced her positive comment about Adam's engagement with a comment about neatness. During the exit interview, excerpted below, teachers commented on Adam's self-regulation skills even when asked to discuss whether or not they would refer him for gifted services.

Clark: If we could get a straight answer out of Adam.

Branson: And it's like sometimes – he's really hit or miss. Like sometimes, he's on it, and then others – like how did he do with the painting today, with you?

Clark: Aside from being a huge mess, he was very engaged in the painting.

Branson: And I think that's what happens. He feels like – I know he's kindergarten, or going into first – but he seems like a very young –

Clark: Young.

Leighann: Socially, he's young?

Branson: Yes. So, it's like he [Adam] does the best he can and then once he's done, he's done.

Clark: And that might be at 9:00 in the morning.

Branson: Yeah, exactly.

Leighann: So, his [Adam's] focus varies it seems like.

Branson: It does.

Clark: Yeah. And he's one of the ones that can't calm himself after we've done the dance activity or – he just, yeah.

Branson: Yeah. I remember we were talking about a book had kaleidoscope in it and he [Adam] said, "Oh, that's like the name of our camp." And so it's – I don't know, it's... I'm sure he's got more in him, but he just can't regulate at all. (Interview, 7.22.19)

At the end of this excerpt, Ms. Branson noted that Adam made an insightful connection during a read aloud, which indicated Insight on the TABs form. However, right after making a positive observation about Adam, she referred to his self-regulation skills. Ms. Clark and Ms. Branson commented that they were not able to observe everything Adam had to offer as evidence of potential, gifts, and talents. Ms. Branson said, "I'm sure he's got more in him" and Ms. Clark said, "If we could get a straight answer out of Adam." When teachers spent their time and attention observing and noting a students' behavior and self-regulation skills, this became a significant barrier to recognizing Adam's potential. Additionally, teachers' expectations for self-regulation and behavior seemed beyond young children's capabilities, which was another barrier to recognizing potential, gifts, and talents (Center on the Developing Child, 2020; Dettmer 2020).

When asked to collect data, fill out the TABs form, and talk about referring students for gifted services, teachers made note of and talked about several students' non-teacher-pleasing behaviors. Instead, they valued behaviors like attending to or listening to the teacher, task orientation, neatness, and self-regulation skills. This emphasis on a limited range of acceptable classroom behavior limited teachers' recognition of students' potential, gifts, and talents and prevented them from considering certain students as suitable candidates for gifted services. Furthermore, this emphasis conflicted with the goal of recognizing potential in primary-grade students from underrepresented populations. Students from underrepresented populations may

not "do school" according to the dominant American public school culture and limited

opportunities to attend preschool and develop school readiness skills, which could affect talent

recognition.

Chapter Summary

In this chapter, I described positive contributing factors that supported teachers'

recognition of students with potential from underrepresented populations. The TABs form and

the curriculum served as useful supports to help teachers recognize potential, gifts, and talents.

The TABs form guided and organized what teachers observed and the data they collected, while

the curriculum amplified opportunities for teachers to recognize (and students to exhibit)

potential, gifts, and talents they could not often demonstrate during the school year. The content

of professional development experiences seemed to encourage teachers to actively engage in the

data collection process. While teachers prioritized collecting data, the quality of the data varied,

and often data were not meaningfully interpreted by teachers in terms of talent recognition. The

process of talent recognition could be improved if teachers engaged in more meaningful analysis

of teacher-collected data and student work by using the TABs form as an interpretive tool. There

were also missed opportunities to analyze student work systematically as evidence that indicates

potential, gifts, and talents. Finally, while teachers mostly collected TABs-aligned data that were

relevant for identifying students' potential and talents, teachers' focus on "good" behavior and

self-regulation skills acted as a barrier to talent recognition for some students. In the next

chapter, I will explain several recommendations for supporting teachers in the talent recognition

process that are aligned to a talent development philosophy.

Chapter 5: Recommendations

Gifted education leaders in Fairland County School (FCS) district recognized the micro-problem of practice addressed by this study: inequitable representation of students from underrepresented populations in their gifted education program. In their local plan for gifted education, FCS district leaders set the goal to increase equitable representation of students in their gifted education programs and put forth several specific strategic plan goals to achieve this goal. The strategic goals related to analyzing their current identification practices, providing teacher professional development, and improving curriculum and instruction in the gifted education program. The goals of Project Kaleidoscope's professional development opportunities and summer intersession program were well-aligned with the district's strategic plan goals.

The local plan for gifted education described specific ways to work toward these goals in the primary grades. The district planned to expand enrichment groups for K-2 students to recognize students who might not be referred for gifted services in the "traditional manner[15]" (Fairland County Schools, 2017, p.7). The plan also stated they would examine identification practices to ensure that appropriate assessments were applied to better consider "students relative to peers of the same experience and environment" (FCS, 2017, p.7). Providing early enrichment experiences for young students and selecting appropriate assessments for identification are consistent with the research literature about equitable gifted identification practices (Kaplan & Hertzog, 2016; Matthews & Peters, 2018; Pfeiffer & Petscher, 2008).

With these ideas in mind, I addressed the micro-problem of practice by analyzing data from the 2019 Project Kaleidoscope summer intersession to better understand if the curriculum, professional development, and application of an observational tool supported teachers in

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[15] Referral for gifted services has traditionally included students being referred through high standardized test scores or teacher referral.

recognizing talent in students from underrepresented populations. This Capstone project was guided by the following research questions:

- Given the unique context of the summer intersession, to what extent did teachers make note of and talk about student outputs as indicative of potential, gifts, or talents?

- To what degree do the things teachers make note of and talk about align with the content of the TABs form, the curriculum, professional development modules, and summer intersession teacher training?

Through analyzing and interpreting archival data from Poplar Elementary School, several findings emerged related to the role of the curriculum, teachers' use of the TABs observational tool, and teachers' data collection practices. Results indicated teachers were able to recognize students from underrepresented populations who were formerly overlooked. The curriculum played a positive role through well-designed learning experiences, including open-ended, creative learning experiences or experiences that require higher-level thinking skills; moreover, the curriculum's alignment to the TABs observational tool amplified opportunities for teachers to recognize talent. However, there were missed opportunities for teachers to better interpret the data they collected in terms of talent recognition, Finally, teachers' emphasis on "good" behavior and self-regulation limited talent recognition for specific students. Based on the strategic plan goals of FCS district and the results of this study, I will provide four specific, actionable recommendations. An overview of recommendations is provided in the Table 5.1.

Table 5.1

Recommendations Aligned to Findings, FCS Goals, and Research Literature

Recommendation	Finding	FCS Local Plan Goal*	Research Literature
1) Use the TABs as an observational tool to increase equitable teacher recommendation practices and help teachers recognize students' potential, gifts, and talents.	Finding 1: Teachers Recognized Potential, Gifts, and Talents Among Students from Underrepresented Populations Finding 3: Using the TABs to Guide Teachers' Recognition of a Wide Range of Indicators of Potential, Gifts, and Talents	Goal 1, 2, 3	Coleman et al., 2010; Frasier et al., 2020; Gentry et al., 2015; Harradine et al., 2014; Pereira, 2021.
2) As part of talent development programs, implement flexible, open-ended curriculum that inspires creativity and requires the use of higher-level thinking skills, and align the curriculum to the observational tool for talent recognition, such as the TABs.	Finding 2: The Curriculum Encouraged Talent Development and Recognition	Goal 1, 3	Briggs et al., 2008; Callahan et al., 2017; Hockett, 2009; Kaplan & Hertzog, 2016; Swanson, 2016; Tomlinson, 2014; VanTassel-Baska & Wood, 2010
3) Provide professional development opportunities that prepare teachers to recognize talent using an observational tool and analyze and interpret data for talent recognition and development.	Finding 4: Teachers Actively Engaged in Data Collection, but Missed Opportunities for Interpretation	Goal 1, 2	Dunlap & Piro, 2016; Love et al., 2008; Grossman et al., 2009; Means et al., 2011; Rosenshine, 2012; Wayman & Jimerson, 2013
4) Provide professional development for gifted resource and primary-grade teachers to ensure they have the most up-to-date knowledge early childhood development and primary-grade learners, related to students' behavior and self-regulation capabilities.	Finding 5: Teachers' Focus on "Good" Behavior and Self-Regulation was as a Barrier to Talent Recognition	Goal 1, 2	Center on the Developing Child, 2020; Clark et al., 2017; Dettmer et al., 2020; National Academies of Sciences, Engineering, and Medicine, 2018; Shonkoff et al., 2021

Note: *Local Plan for Gifted Education (2015-2020) Goals: 1) continuing to improve gifted identification procedures, 2) providing more opportunities for teacher professional learning about the identification of underrepresented students, and 3) increasing the representation of underrepresented populations of students in gifted programming (FCS, 2017)

In the following sections, recommendations will be described along with suggestions for implementing each recommendation. Further, a rationale for each recommendation will be provided, and the recommendation will be situated in the research literature and/or related to this study's findings.

Recommendation 1: Use the TABs (or another similar) as an observational tool to increase equitable teacher recommendation practices and help teachers recognize students' potential, gifts, and talents.

FCS set a goal to analyze current identification practices in order to more equitably identify students from underrepresented populations. In light of this study's results, I recommend that FCS use the TABs (Frasier et al., 1995), or a similar observational tool like the TOPS or HOPE Teacher Rating Scale (Coleman et al., 2010; Gentry et al., 2015; Harradine, et al., 2014; Pereira, 2021), to help teachers recognize potential, gifts, and talents in their primary grade classrooms and enrichment programs. However, no observational tool available for recognizing potential, gifts, and talents is perfect for primary-grade students. The tools discussed below were tested with elementary-grades students. Ideally, an observational tool will be developed that describes how talents manifest among primary-grade learners and accounts for the unique developmental factors of 5-7 year olds. Until then, selecting among the TABs or other observational tools like the TOPS or the HOPE Teacher Rating Scale will be the best option from the available choices because these tools are empirically tested, designed for elementary-grade students, and illustrated through research that they supported teachers in identifying students from underrepresented populations (see "Rationale for Recommendation 1" for more information). When selecting a tool for observing students and recognizing talent, FCS should ensure that the tool aligns to their program philosophy and program services.

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Implementation for Recommendation 1

Teachers in the five Project Kaleidoscope treatment schools have used TABs over the past several years, so they have become familiar with this observational tool, and it supported talent recognition during the summer intersession; therefore, the TABs could be a useful tool to continue improving FCS's talent recognition process. However, if FCS cannot use the TABs, then they should consider two similar observational tools, the TOPS and the HOPE rating scale, Like the TABs, these tools were designed for and tested with students from underrepresented populations, including the underrepresented groups that FCS hopes to more equitably identify, such as culturally, racially, and ethnically diverse students, students experiencing poverty, and English Learners (Coleman et al., 2010; Gentry et al., 2015; Harradine, et al., 2014; Pereira, 2021). All three of these observational tools have been empirically tested during the school year or summer enrichment programs for students with potential from underrepresented populations, and each tool was designed for teachers, not just gifted education experts, to use (Frasier et al., 1995; Gentry et al., 2015; Harradine, et al., 2014). Finally, these observational tools were also designed and tested with elementary-school students, so they are developmentally appropriate for primary-grade learners. I developed the following checklist (Figure 5.1) for FCS gifted education leaders to use when evaluating observational tools for talent recognition.

Figure 5.1

Checklist for Observational Tool

Checklist for Evaluating Observational Tool for Talent Recognition

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_____Is the tool designed for teachers?

_____Was the tool designed and tested with young students?

_____Does the tool accurately state specific descriptions or indicators of potential, gifts, and talents? Does it draw upon research-based characteristics of giftedness?

_____ Was the tool designed for teachers to identify students from underrepresented populations?

_____ Was the tool empirically tested with students from underrepresented populations: culturally, racially, and ethnically diverse students, students experiencing poverty, and English Learners?

Rationale for Recommendation 1

The current identification practices for primary-grade students at FCS rely heavily on teachers. Currently, FCS gifted resource teachers conduct universal screening lessons and evaluate student work using a rubric in the primary grades (Interview, 7.22.19); primary-grade students can be referred by teachers to participate in enrichment (FCS, 2017). The general education and gifted resource teachers identify students to participate in enrichment groups, which are the only gifted services available to primary-grade students; students are not formally identified to participate in the gifted education program until second grade (FCS, 2017). The formal identification procedures at FCS include more criteria and assessments than the more informal referral to primary-grade enrichment (FCS, 2017). Overall, primary-grade teachers play an influential role in referral process for K-2 enrichment programs (FCS, 2017).

The results of this study indicated the TABs form supported two Poplar Elementary School teachers in recognizing talent in primary-grade students who were formerly overlooked during the school year, including English Learners, students experiencing poverty, and students

from diverse cultural, ethnic, and racial backgrounds (Finding 1). Another finding suggested that the TABs guided and organized teachers' data collection and helped teachers recognize a broader range of potential, gifts, and talents (Finding 3). Therefore, the results of this study suggest that the TABs could help FCS teachers recognize potential, improve their current identification practices, and perhaps even increasing equitable enrollment of students in their gifted programs (two of their strategic goals) (FCS, 2017).

Research in the field of gifted education has indicated that bias in the teacher recommendation process is not the cause of underrepresentation, but it is a potential mechanism that contributes to inequitable referral rates and representation of diverse students in gifted programs (Grissom & Redding, 2016; Hodges et al., 2018; Lamb et al., 2019; McBee et al., 2016; Yoon & Gentry, 2009). Since, in general, teacher recommendations can be biased, observational tools have been advanced as a powerful way to help teachers make accurate and valid judgements of gifts and talents (Pfeiffer and Petscher, 2008) and reduce bias in the teacher referral process (Gentry et al., 2015; Harradine et al., 2014; Renzulli et al., 2010). The TABs, HOPE Rating Scale, and TOPS have all been used to successfully identify students with potential from underrepresented populations. For example, when teachers used the TOPS, a teacher observational tool that positively frames students' actions and behaviors, the tool supported teachers in developing a "strengths-based, at-potential" mindset (Harradine et al., 2014, p.33). Observing with the TOPS helped teachers to overcome barriers to identifying students from underrepresented populations, such as their implicit biases and expectations for certain groups of students (Harradine et al., 2014). Furthermore, using the TABs or a similar, research-based observational tool, will help FCS teachers identify potential, not just manifested

gifts and talents.While identifying potential can be challenting, it is especially important for recognizing primary-grade students from underrepresented populations (Hertzog at al., 2018). For these reasons, I suggest that FCS select a research-based observational tool like the TABs to support accurate, valid judgments of gifts and talents, reduce bias, and overall, increase talent recognition for students from underrepresented populations.

Recommendation 2: **Align the curriculum to the observational tool in order to amplify opportunities for talent recognition.**

I recommend that the curriculum used during the talent recognition process align to the observational tool being used (i.e., TABs or a similar observational tool). For example, if talent recognition occurs during a universal screening lesson or summer enrichment program, it would not be required to align to state standards, and therefore, gifted resource teachers or coordinators could implement a creative, open-ended curriculum similar to the one used in the 2019 summer intersession.

Implementation of Recommendation 2

Games and puzzles are two learning activities that reduce the instructional demand on teachers while allowing them to observe students as they apply higher-level thinking skills, like reasoning and problem-solving. Games such as Pengoloo, Planet, and Froggit are fun for primary-grade learners, and they also have a high enough ceiling for strategy, reasoning, and solving problems, so that they could be used to detect TABs performance indicators. Colorful puzzles with various shapes and multiple solutions will allow children to apply their understanding of patterns to create puzzles at multiple levels of complexity. I recommend using the Ocean Tessellations puzzle from this study. I also recommend Tangrams, because they are readily available in many math classrooms; observing students creating patterns with these

manipulatives showcases problem-solving and visual-spatial reasoning and other higher-level thinking skills. The National Association for Gifted Children (NAGC) has recommended other types of puzzles, including 2-D and 3-D that involve building and manipulatives, which are appropriate for this task (NAGC, 2020). For example, Kanoodle©, Jr. for children ages 4-7 taps into critical thinking, problem-solving, and spatial reasoning and is available through Educational Insights; there are versions of this game for older children, too, such as Kanoodle© Game.

Furthermore, draw on resources at each elementary school, by consulting art and primary-grade teachers to implement open-ended creative learning activities that involve creativing various types of artwork. See Appendix P for sample prompts for artwork and creative writing. These activities could be implemented with individual students, in small groups at stations, or with a whole class at once.

Rationale for Recommendation 2

Curriculum that is well-aligned to the observational tool will amplify opportunities for teachers to observe students' potential (Finding 2). When using the TABs at Poplar Elementary, teachers noticed talent particularly during open-ended, creative learning experiences and those that required students to apply higher-level thinking. Open-ended, creative learning experiences allowed students to exhibit Motivation, Interests, close attention to detail, Insight, and Imaginative Creativity (covering several TABs categories) as they created artwork and other creative products and talked about their creative processes. Puzzles and games required students to apply higher-level thinking skills, like Memory, Reasoning, and Problem-Solving Ability (three of the TABs categories). As students played the Pengoloo game or worked the Ocean Tessellations puzzle, instructional demands on teachers were not high, which afforded teachers

time and space to observe students. Similarly, teachers closely observed students in small groups at stations while students created artwork and wrote journal entries; this flexible, small-group setting allowed for one-on-one, student-teacher interaction. The design of certain learning experiences lessened the demands on teachers and increased student-teacher interaction, thereby providing more opportunities for teachers to observe students and recognize talent.

Kaplan and Hertzog (2016) suggested several "mindshifts" to support recognition and development of potential and talent during early childhood. Two of these mindshifts were related to curriculum and instruction. First, they suggested that teachers move beyond waiting and searching for the display of potential or manifested talents and move toward actively creating learning experiences that *require* young children to express their potential, gifts, and talents (Kaplan & Hertzog, 2016). They also supported the use of inquiry-based curriculum and instruction, noting that this type of curriculum involves open-ended situations or contexts that ask students to draw on prior knowledge, stimulate students' interests, and provide opportunities for self-directed learning. The hands-on, interactive, and open-ended learning experiences implemented during the summer intersession, some of which were designed specifically to align to the TABs, embodied the "mindshifts" needed to identify potential in young children (Kaplan and Hertzog, 2016). Designing enriching, appropriately challenging curriculum aligned to the TABs will help teachers more easily recognize talent while observing students. In this way, the curriculum and observational tool will work together to amplify opportunities for talent recognition and development.

The next two recommendations explain the design and rationale for two purposeful professional development opportunities based on the results of this study. Recommendation 3 focuses how to fully prepare teachers for talent recognition through targeted practice with

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observational tool to and guided practice to support data analysis and interpretation.

Recommendation 4 describes potential professional development implementation advice to

provide teachers with more knowledge about primary-grade learners' self-regulation capabilities

and development in order to reduce barriers to talent recognition.

Recommendation 3: Provide professional development opportunities that prepare teachers to recognize talent using an observational tool and analyze and interpret data for talent recognition and development.

I recommend that FCS district leaders continue to offer teachers access to the online,

asychoronous learning modules created by Project Kaleidoscope. Taken together, the summer

intersession teacher training and modules (see Chapter 3 for descriptions of Module 11 and 12),

seemed to support broadening teachers' conceptions of potential, gifts, and talents, and may have

helped teaachers engage in systematic data collection.

To support teachers in collecting, analyzing, and interpreting data specifically for talent

recognition, I recommend that FCS build on the professional development opportunities

provided by Project Kaleidoscope by providing teachers with ongoing opportunities to engage in

guided practice about how to analyze and interpret data for talent recognition with a talent

recognition expert from within the district. This talent recognition expert would be a FCS gifted

coordinator or gifted resource teacher with experience in recognizing talent using an

observational tool like the TABs and analyzing the related data, specifically during the primary-

grades. Scaffolds like guiding questions (Figure 5.2) should be applied during guided practice

and observation of students. Furthermore, research suggests that ongoing, sustained professional

development is most effective (Desimone, 2009). However, it must be acknowledged that

professional development is not a panacea to solve all problems related to the talent recognition

process, and it can have some limitations.For example, teachers are not always able to transfer what they learn during professional development into the classroom; indeed, the task of recognizing talent during the instructional process is demanding and complex. However, additional guided practice during professional development could potentiall support increased talent recognition by teachers.

Implementation for Recommendation 3

Guiding questions will help teachers to focus on relevant aspects of the data, assess data quality, and make meaning of the data for talent recognition. The questions in Figure 5.2 guide teachers to consider all of the data they collected about each student and seek new data. Data analysis and interpretation is a complex process, and therefore using guiding questions as a scaffold may help teachers engage in this process and improve their interpretation skills.

I organized the guiding questions into the following sections: Understand It, Contextualize It, Interpret It, and Reframe It. "Understand It" asks teachers to think about the piece of data they collected it, why they collected it, and what information it provides about the students' thought processes in general. "Contextualize It" questions are designed to enrich an individual piece of data by asking teachers to consider that data in relation to other data about that student. These questions also ask teachers to consider the learning context, such as curriculum and instructional learning experiences students engaged in while the data were collected. "Interpret It" questions prompt teachers to interpret the data in terms of talent recognition by referring to the observational tool. "Reframe It" questions should inspire teachers to think about how a piece of student data could represent a strength or positive attribute. A reframing question might also prompt teachers to seek out new information to better understand the data.

Figure 5.2 displays guiding questions that could be used for teachres to practice data analysis and interpretation during professional development and shared on a handout for teachers to use during observation.

Figure 5.2

Guiding Questions

Guiding Questions for Data Analysis and Interpretation	
Understand It	• What does this piece of data tell me about the student? • Why did this data stand out to me? • Why did I collect this piece of data? • What type of thought process was the student engaging in? • What information could I gather to better understand this piece of data?

Contextualize It	• What else was the student saying or doing when I collected this piece of data?
	• Which learning experience was the student engaging in when I collected this data?
	• Compare the piece of data to other data you collected about this student.
	  o Ask yourself, Have I collected any similar data about this student?
	  o Did I collect other data that contrasts with this data?
	• What other information could I gather to contextualize this piece of data?

Interpret It	• Reread the descriptions and performance indicators on the observational tool. • Does this data align to any of the descriptions or performance indicators? • Does the data represent more than one category? Which ones? Why? • Does the data provide information about the student's potential? If so, how?
Reframe It	• Could I interpret this piece of data another way? • How could I better understand the students' actions, words, or intentions? • How could I state this in a more positive way? • How might I seek out another piece of data about this student that illustrates a related strength?

These questions could be used to facilitate teachers' discussion of the data with each other. Through using these guiding questions, a teacher to internalize reflective questions as part of the data interpretation process. It is not intended for teachers to ask every single question of every piece of data.

Opportunities should also be provided for teachers to practice analyzing multiple sources of student data in the context of a professional development setting. Provide opportunities for teachers to work together and practice analyzing several kinds of data, such as a direct quote from a student, an audioclip of a student telling a story, an original piece of artwork, and a draw-and-write journal entry. Teachers should use the observational tool and guiding questions while analyzing multiple sources of data

I recommend making physical scaffolds (e.g., a handout with guiding questions, TABs forms, or posters that highlight talent development and growth mindset) available for teachers to use whenever they are observing students and analyzing data for talent recognition. Physical, handheld reminders will support teachers in keeping data analysis and interpretation for talent recognition up-front in their hands and minds. Hopefully this will encourage teachers to move beyond collecting pieces of data on sticky notes and take the next steps to analyze the data and make meaning for talent recognition.

Rationale for Recommendation 3

Several studies suggest that teachers need training to better recognize talent among students from underrepresented populations (Pereira, 2021; Siegle et al., 2016). Implementing teacher training that uses a guided practice instructional model would provide structured practice of data analysis and interpretation. This guided practice process would support teachers in making the leap from viewing data collection as an end in itself toward meaningful interpretation of data for talent recognition.

Professional development opportunities that support teachers in analyzing and interpreting data for talent recognition, using guided practice with an observational tool and other scaffolds, should be provided for several reasons. First of all, a more structured form of

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deliberate practice should be guided by an talent recognition expert from the FCS school district, such as a gifted resource teacher training in data analysis and coaching. Ongoing support for talent recognition data analysis and coaching will likely help teachers transfer what they learned during online modules or teacher training. While Project Kaleidoscope's professional development experiences partly instructed participants through modeling (the "I Do" portion of guided practice), participants did not independently practice data analysis and interpretation for talent recognition. It seems that modeling best practices for data use did not always result in transfer and implementation of data interpretation in the classroom (Finding 4). As discussed in Finding 4, teachers at Poplar Elementary School missed opportunities to analyze and interpret all available data, especially student work products. Further, teachers often did not analyze the data in meaningful ways or interpret data in terms of the TABs form (Finding 4).

Professional development that targets increasing data interpretation for talent recognition should be provided for by FCS for any teachers involved in the talent recognition process; this professional development should involve collaborative inquiry among teachers and support from a gifted education teacher, leader, or coach on an ongoing basis, both before and after talent recognition observations, if possible (Love et al., 2008). Research indicated teachers may need assistance from an expert to increase their data literacy (Wayman & Jimerson, 2013), which is why I recommend that teachers engage in guided practice while they are learning to interpret student data for talent recognition. Additionally, data literate teachers "generate data-based questions, disaggregate data for answers, and analyze interpretations" of data and often use step-by-step protocols to do so successfully (Dunlap & Piro, 2016, p. 4; Means et al., 2011). Therefore, I also recommend using a step-by-step protocol, like the guiding questions in Figure 5.2, to guide teachers in interpreting data for talent recognition.

Recognizing talent is a complex process that requires teachers to tap into their knowledge of gifts and talents while also observing and analyzing student data to then, in turn, interpret that data in terms of talent recognition (Siegle et al., 2016). When teachers are asked to engage in complex processes like data analysis and/or talent recognition, professional development that involves guided practice should be implemented. Research has illustrated that guided practice is especially important in professions of practice like teaching (Grossman et al., 2009). Grossman et al. (2009) studied teachers' professional practice and research suggested that instructional methods similar to guided practice (called "approximations of practice" in this study) "can provide opportunities for novices to engage in 'deliberate practice' (Ericsson, 2002) of particularly challenging components of practice." Approximations of practice break down complex tasks into pieces so that learners can focus on one aspect of the task at a time: "In part, approximations are designed to focus students' attention on key aspects of the practice that may be difficult for novices but almost second nature to more experienced practitioners" (Grossman et al., 2009). After engaging in guided practice with the district-based talent recognition expert and other teachers, teachers can learn to independently apply guiding questions to break apart and examine the body of data for each student; each type of guiding question I developed is designed to help teachers examine the data from multiple perspectives. Practicing with the TABs observational tool is another way to help teachers focus on "key aspects of the practice" of data analysis for talent recognition, because it should help teachers to interpret the data in terms of TABs categories.

Professional development opportunities that implement guided practice for data analyis should also involve analysis of multiple types of student data. In this Capstone project, teachers focused on their sticky note data and they mostly recorded what students said and did, which

meant there were missed opportunities to analyze student work products. When asking students to communicate through multiple modes of expression, a variety of data sources is created, some of which teachers may not be used to analyzing. This presents teachers with several meaningful sources of information, but it can be a challenge to interpret this wide variety of data. However, it is important to take all of this unique data into consideration, especially when working to identify students from underrepresented populations (Hertzog et al., 2018; Matthews & Peters, 2018).

Recommendation 4: Provide Professional Development to Increase Teachers' Knowledge of Primary-Grade Learners' Capacity for Self-Regulation and Behavior

I recommend that FCS early childhood development experts, such as FCS school psychologists or primary-grade teachers with an expertise in the latest early childhood research, provide professional development for gifted resource and primary-grade teachers to ensure they have the most up-to-date knowledge of behavior and self-regulation capabilities of primary-grade learners. Acquiring this knowledge could come in several forms, including coursework or consulting and discussing online resources and readings on an ongoing basis in teacher "book clubs" or professional learning communities.

Implementation of Recommendation 4

There are several approaches that FCS gifted education leaders could take to implement Recommendation 4. They should choose which of the specific courses and research-based online resources and readings best fit the needs and prior experience of their teachers.

Courses relevant to Recommendation 4 should include provide the latest, research-based information about early childhood development and self-regulation in young children. The University of Virginia offers the following early childhood courses relevant to self-regulation

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skills in early childhood: Foundations of Early Childhood Development & Education, and Understanding & Supporting Self-Regulation in Early Childhood.

I recommend several research-based online resources and readings that could be implemented during professional development experiences like grade-level team meetings, teacher book clubs, or professional learning communities. Harvard University's Center on the Developing Child (2021) provides a research-based video and overview, "Executive Functioning and Self-Regulation," that will be a useful resource for teachers to learn or review the most up-to-date information about self-regulation skills in early childhood. For more in-depth learning experiences, FCS could provide teachers with access to an online learning course called "The Best Start in Life: Early Childhood Development for Sustainable Development" describes social, emotional, and cognitive development in early childhood, and includes up-to-date information about the influence of contexts and cultures on child development (Shonkoff et al., 2021). This massive, open online course (MOOC) was designed by professors from Harvard University's Center on the Developing Child and New York University's Global TIES for Children program. It is free to enroll in this course and convenient for teachers.

Readings could be provided for teachers through professional learning communities and teacher "book clubs," to access the most up-to-date publications. "Self-Regulation in Young Children: A Skill Set for Lifetime Success*"* (Dettmer et al., 2020) is a short, recently published chapter that will directly impact teachres' knowledge about early childhood self-regulation skills. This text is evidence-based, and it also includes user-friendly language and will not be too time-consuming for busy teachers to read and discuss. "Self-Regulation in Early Childhood" and "Strategies for Helping Young Children with Self-Regulation" are two research-based, helpful,

and short web and PDF resources provided by researchers and practitioners at the University of Nebraska (Clark et al., 2017) for teachers to read and discuss.

Rationale for the Recommendation 4

For many teachers, it has been several years since they took a human or child development course, and thinking about child development has changed. Some psychologists and cognitive scientists now approach child development as a dynamic process with more flexible, overlapping phases instead of separate stages, and child development experts emphasize the critical component of interaction between adult and child that children need to develop self-regulation skills (Center on the Developing Child, 2020). Understanding that young children's growth occurs in interactive and dynamic ways could increase teachers' understanding of individual students and their talent development. The learning sciences have advanced significantly in the last decade, partly by acknowledging the influence of sociocultural contexts and culture on the developing brain (National Academies of Sciences, Engineering, and Medicine, 2018). Holding accurate, developmentally-appropriate expectations for young students should help teachers to better understand them.

In their pedagogy of early childhood gifted education, Kaplan and Hertzog (2016) emphasized that to better recognize and develop young students' potential, teachers must transition from: "what they believe young students are able to learn" and "what these children are actually capable of learning." In this Capstone project, teachers held high expectations for behavior and self-regulation that may have been beyond the capabilities of primary-grade learners. In Finding 5, I discussed how teachers valued "good" behavior, including sitting still, calming down and transitioning quickly, and always attending and listening. The summer intersession students were rising first and second graders, and sometimes these expectations for

behavior and self-regulation were too high, because some five-year-olds can only focus for two minutes at a time, while some children need until age seven years to flexibly transition between activities (Clark et al., 2017). Self-regulation is a developmental process that differs by child, so it is important for teachers to support students as they learn to self-regulate during early childhood (Clark et al., 2017; Dettmer et al., 2020).

Teachers' high expectations for self-regulation were not aligned to the intentions of the summer program to build a fun, flexible learning environment. Teachers expected students to always listen, transition quickly and quietly, and calm down quickly after engaging in movement-based activities (Interview, 7.22.19; Observation, 7.18.19; see Chapter 4: Finding 5). These high expectations for behavior and self-regulation sometimes limited teachers' ability to recognize talent in some students, like Lucas and Adam. For example, when teachers were asked to discuss whether they would refer Adam for gifted services, teachers instead described several behaviors related to self-regulation (Interview, 7.22.19). Providing teachers with a scientific understanding of primary-grade learners' capabilities for self-regulation and behavior through the lens of learning sciences and child development could help teachers formulate more realistic expectations for students' task orientation, behavior, and self-regulation skills (Dettmer et al., 2020). Realistic expections for primary-grade learners could help teachers maintain their focus on the process of talent recognition. For these reasons, I recommend providing professional development experiences to improve teachers' knowledge of the behavioral and self-regulation capabilities of primary-grade learners.

Limitations

In this study, I could not fully address RQ2. I analyzed the potential impact of the online learning modules and the 2019 teacher training, and it seemed that these professional

development opportunities impacted teachers' data collection process and understanding of their active role in talent-spotting. Teacher participants engaged with the modules over a period of three years as they were released, and Ms. Branson and Ms. Clark completed all of the modules. However, I do not know how often they watched each module or when. While they seemed to integrate knowledge of the modules into their actions, they did not refer specifically to the modules during the interview or observations. Further, the interview protocol did not include a specific question about if and how they integrated information from the modules or teacher training into their summer intersession teaching and talent recognition practices. Like the modules, I could not determine the full impact of the 2019 summer intersession teacher training, because Ms. Clark and Ms. Branson had attended prior trainings and I could not isolate what they may have learned. Therefore, while I have described the ways in which teachers noticed talent in their students during the 2019 summer intersession, I cannot assign specific causation, because any one component of their engagement with this study (e.g., modules, prior teacher training, teaching in a previous summer intersession) could account for practices enacted by teachers during the 2019 summer intersession.

The use of archival data and choice of teacher noticing as a theoretical framework presented some limitations for this study. For example, the interview (Appendix A) and observation protocols (Appendix B) were not designed specifically for this Capstone project, and therefore, were not fully aligned to the specific research questions. For example, I was not able to ask teachers directly to reflect on their observations related to talent-spotting; however, I could refer to participant responses to a question in the interview protocol about their final thoughts on whether or not they would refer students to the gifted program, which could serve as a proxy for teacher noticing of potential, gifts, or talents. The question on the interview protocol stated:

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"Would you refer any of the students from this past two weeks to receive additional support from the GRT? Do you think that with continued support the student might be nominated for screening for gifted services? If yes, who and why?" The semi-structured observation protocol was also not aligned specifically to this Capstone project's research questions. On the other hand, the open-ended nature of the protocol presented opportunities for talent-spotting moments to be noted by Project Kaleidoscope observers, and the protocol included prompts related to talent development (Appendix C). Finally, the data collection period for the archival data ended before my study started, and so I was not able to engage in member-checking with participants to confirm findings.

As I discussed throughout this Capstone Project, the unique setting of the summer intersession, with its small class sizes, talent development curriculum, co-teaching, and summertime, meant that the program could encourage flexibility and creativity and was free from many of the restrictions that teachers face during the school year. However, because the context was so unique, one should be cautious before applying this study's results beyond this context.

While Project Kaleidoscope researchers created thick, rich descriptions in their observational field notes, observers were not present every day during the summer intersession, or on the final day when teachers completed the TABs forms. Therefore, when considering the archival data available for this Capstone project, readers should keep in mind that Finding 4 about missed opportunities for data collection should be considered with this missing information in mind.

Participation in the research study may have influenced the teachers' actions and some of the findings. Due to their participation in the larger research project, it is possible that teachers

were motivated to present themselves in a positive light and act in ways they perceived they should. For example, in Finding 4, I stated that teachers were actively engaged in data collection, and they may have perceived this as a job requirement, because they were paid to attend teacher training and for teaching during the summer intersession. Perhaps teachers collected data not only to recognize talent in students, but also because they felt they must in order to continue participating in the research study or fulfill their job duties.

Conclusion

This Capstone project focused squarely on the talent recognition process, but it must be acknowledged this is only one step in the larger talent development process. Recognizing potential in the primary-grades is very important, because this is a pivotal time to help students develop their talents, so that they have equitable opportunities to fulfill their potential and stay engaged in school (Hertzog et al., 2018; Wright & Ford, 2017). The recommendations in this chapter related primarily on talent recognition, following from this study's findings. Yet the successful nature of the summer intersession also has implications for talent development. The summer session served as a unique context for talent recognition and development, partly because of the small class-sizes, supportive nature of co-teaching, the high-quality, interactive curriculum designed for talent development, and the focus on recognizing talent in students from underrepresented populations.

In the future, I recommend that the gifted education program leaders in the FCS district provide early enrichment experiences for students during the school day, after-school, and/or in the summer. Enrichment experiences, like a summer intersession, will increase opportunities for talent recognition and talent development. Enrichment programs are useful for talent recognition, because they can provide more opportunities for talent-spotting of students outside of the

traditional classroom environment. While the traditional classroom during the school year has expectations associated with grades or standardized test scores, summer or after-school enrichment programs afford opportunities for students to exhibit creativity and other talents.

The fun, open-ended nature of the Project Kaleidoscope summer intersession was intended to be different from the school year, because teachers were not required to teach to standards and high-stakes tests were not a consideration. This removed some pressure from teachers and students, and also opened up possibilities for students to engage with topics beyond the highly-tested subjects of math and reading. Therefore, teachers had more opportunities to recognize potential in students outside of these two traditionally-valued areas. For English Learners and other students from underrepresented populations who have not yet achieved high literacy scores in the traditional classroom, engaging in early enrichment experiences will support their literacy skill development and allow them to display talents outside the limited confines of high math and literacy achievement (NAGC, 2015b; NCRGE, 2016). FCS district stated that they hoped to revise identification practices to allow for assessing students relative to their peers with similar learning experiences and environments; therefore, providing early enrichment programming for students from underrepresented populations, including students who have experienced poverty and had limited access to preschool and early literacy experiences, should allow for teachers to assess student among a peer group.

The unique features of the summer intersession's learning environment could be recreated during after-school or summer programs in FCS district. Through implementing small class sizes, co-teaching partnerships, high-quality, creative, and open-ended curriculum, and a flexible, low-pressure environment, early enrichment programming can create learning environments that allow for talent development and recognition. In this way, FCS gifted

education leaders could diversify the types of environments where they observe students and assess them for gifted services, which could lead to more equitable representation of all students in the gifted education program. Indeed, because sociocultural contexts matter when identifying gifts and talents (Plucker et al., 2017), therefore, flexible, enriching learning contexts should be provided in order to increase equitable identification and enrollment in the FCS gifted education program for students from underrepresented populations.

This study's theoretical framework, teacher noticing, stated that teacher noticing is a skill that can be learned over time and teachers may need support in developing the skills of observing, interpreting, and reasoning about what they observed, with the ultimate goal of impacting student-centered, responsive instruction. Professional development, as recommended in Recommendations 3 and 4, can be employed to develop teacher noticing skills (van Es & Sherin, 2002; van Es et al., 2017). In this framework, observing involves identifying what is important in a teaching situation; in terms of the talent recognition process, this means that while closely observing, teachers should notice TABs that indicated potential, gifts, and talents. For teachers' observations to lead to talent recognition and development, teachers must interpret student data by connecting it to their conceptions of giftedness and talents. Finally, in this study, teachers did not often move beyond observing and interpreting to reach the next step of teacher noticing, reasoning. Reasoning about what they observed would have required teachers to explicitly connect their knowledge of the students, the sociocultural learning context, and their knowledge of giftedness and talent development. Reasoning is an crucial step because it precedes taking action and informing instruction. As a theoretical framework, teacher noticing was useful during this study for teasing out missed opportunities for interpretation and reasoning. Teachers and gifted resource coordinators must move beyond talent-spotting to interpret and reason about

student data in order to lead to true talent recognition and talent development. However, data interpretation and analysis is a complex process, and therefore, as I noted in the Recommendations 3 and 4, teachers will likely need support and professional development to be prepared to engage in meaningful data analysis and interpretation for talent recognition. Furthermore, teacher noticing posits that context matters during the reasoning stage of teacher noticing. Teachers and district leaders implementing talent recognition should provide engaging, inclusive learning contexts for talent recognition, like a summer enrichment program, and pay close attention to sociocultural learning context when striving to recognize talent, especially for students from underrepresented populations in gifted education.

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Appendix A

TABs Form (Frasier et al., 1995)

TABS: Frasier's Traits, Attributes and Behaviors   STUDENT NAME: _____

<u>Guide:</u> This is a guide for observing students in your classroom. As they show evidence of extraordinary potential, highlight the traits below.

INTERESTS	MOTIVATION	INQUIRY	INSIGHT	HUMOR
Intense interests (something unusual)	Evidence of desire to learn	Questions, experiments, explores	Quickly grasps new concepts And makes connections; senses deeper meanings	Conveys and picks up on humor well
GENERAL DESCRIPTION Activities, avocations, objects, etc., that have special worth or significance and are given special attention	**GENERAL DESCRIPTION** Forces that initiate, direct and sustain individual or group behavior in order to satisfy a need or attain a goal	**GENERAL DESCRIPTION** Method of process of seeking knowledge, understanding or information	**GENERAL DESCRIPTION** Sudden discovery of the correct solution following incorrect attempts based primarily on trial and error	**GENERAL DESCRIPTION** Ability to synthesize key ideas or problems in complex situations in a humorous way; exceptional sense of timing in words and gestures
HOW IT MAY LOOK Unusual or advanced interests in a topic or activity; self-starter; pursues an activity unceasingly; beyond the group	**HOW IT MAY LOOK** Persistent in pursing/completing self-elected tasks (may be culturally influenced evident in school or non-school activities); enthusiastic learner, has aspirations to be somebody, do something	**HOW IT MAY LOOK** Asks unusual questions for age; plays around with ideas; extensive exploratory behaviors directed toward eliciting information about materials, devices or situations	**HOW IT MAY LOOK** Exceptional ability to draw inferences; appears to be a good guesser; is keenly observant; heightened capacity for seeing unusual and diverse relationships, integration of ideas and disciplines	**HOW IT MAY LOOK** Keen sense of humor that may be gentle or hostile; large accumulation of information about emotions; capacity for seeing unusual relationships; unusual emotional depth; openness to experience; sensory awareness
COMMUNICATION SKILLS	**MEMORY**	**REASONING**	**PROBLEM SOLVING ABILITY**	**IMAGINATIVE CREATIVITY**
Highly expressive with words, numbers and symbols	Large storehouse of information (on school or non-school topics)	Logical approaches to figuring out solutions	Effective (often inventive) strategies for recognizing and solving problems	Produces many ideas; highly original
GENERAL DESCRIPTION Transmission and reception of signals or meanings through a system of symbols, codes, gestures, language and numbers	**GENERAL DESCRIPTION** Exceptional ability to retain and retrieve information	**GENERAL DESCRIPTION** Highly conscious, directed, controlled, active, intentional, forward-looking and goal-oriented thought	**GENERAL DESCRIPTION** Process of determining a correct sequence of alternatives leading to a desired goal or to successful completion or performance of a task	**GENERAL DESCRIPTION** Process of forming mental images of objects, qualities. Situations, or relationships which aren't immediately apparent to the sense; problem solving through non-traditional patterns of thinking
HOW IT MAY LOOK Unusual ability to communicate (verbally, non-verbally, physically, artistically, symbolically); uses particularly apt examples, illustrations or elaborations	**HOW IT MAY LOOK** Already knows; 1-2 repetitions for mastery; has a wealth of information about school or non-school topics; pays attention to details; manipulates information	**HOW IT MAY LOOK** Ability to make generalizations and use metaphors and analogies; can think things through in a logical manner; critical thinker; ability to think things through and come up with a plausible answer	**HOW IT MAY LOOK** Unusual ability to devise or adopt a systematic strategy for solving problems and to change the strategy if it's not working; creates new designs; inventor	**HOW IT MAY LOOK** Shows exceptional ingenuity in using everyday materials; is keenly observant; has wild, seemingly silly ideas; fluent and flexible producer of ideas; Elaborate; highly curious

Appendix B

Summer Intersession 2019 Curriculum Unit: Color Vision Overview and At-a-Glance

Camp Kaleidoscope: Summer 2019 Curriculum Overview

Each day of this curriculum contains the same basic components:
- Background
- Learning Objectives
- Opening Circle
- Read Aloud
- Whole Group Activity
- Interactive Experience
- Snack
- Centers
- Closing Circle
- Home-School Connection

The At-a-Glance Curriculum document that follows includes overarching concepts, understandings, and essential questions for the entire curriculum, as well as daily topics, understandings, essential questions, and learning objectives (i.e., what students will know, understand, and be able to do).

The following are descriptions of each of these components (excluding Snack);

Background: The background section of the daily lessons provides you with a broad overview of the focus of the day and a preview of activities that might require more planning or consideration before the lesson begins. For some lessons, the background section will include information or content you should learn or review before introducing content to students.

Learning Objectives: Each day has several learning objectives: big understandings and related essential questions and what we would expect children to know and be able to do after participating in the lessons. The "K's" refer to what we want children to know by the end of the lesson while the "S's" refer to the skills students will be developing or engaging in during the lessons of the day.

Anchor Charts: Anchor charts will be used often throughout the course, in several ways. Sometimes an Anchor Chart can be a place for students to record questions before, during, and after a read aloud. Recording student questions on an Anchor Chart can help us return to those questions in order to answer them. Other times, like on Day 1, an Anchor Chart can be a place to record and refine our ideas related to big understandings. For example, on Day 1, an Anchor

Chart is created and titled: *Observing Means that We…* You will ask, "what does it mean to observe?" This works like a pre-assessment to find out what students already know about observation as a process of skill. As students learn more about how to closely observe throughout the day, you will add more information or details to the Anchor Chart. Then the chart can be displayed and returned to later in the day, like during Closing Circle, as a way to reinforce a big understanding of the first two days, such as scientists and artists observe the world around them closely using the five senses. An Anchor Chart might also be used as a support or provide scaffolds for an activity. For example, we have a sample Anchor Chart with key words, like adjectives, or phrases related to description could be displayed for students to refer to at Observation Station.

Opening Circle: The opening circle serves two purposes: to help children and teachers connect with one another *and* to help the children preview and/or connect to content in meaningful and engaging ways. Children and teachers will be encouraged to circle up each morning, so that all children and teachers can make eye contact and listen to one another. The day will typically begin with a greeting, game, and/or "getting to know you time" to provide the children with a sense of belonging. Children will be given a preview of the day's activities, so they know what to expect throughout the day.

Read Aloud: There will be an interactive read aloud for each day of camp. Each read aloud book was specifically chosen to align to the concepts and understandings of the day and create a space for inquiry. The interactive nature of the read aloud allows children to explore and ask questions related to the essential questions and/or big understandings of the day. For example, the Day 1 text, *Me and My Five Senses,* helps students explore ideas related to the five senses before students will observe using their five senses in a more experiential activity. Students will be able to ask and answer their questions about the five senses during the read aloud, then apply what they learned in the following activities that day. More information about the purpose of each read aloud is embedded in daily lesson plans.

Whole Group Activity: Students and teacher will work together in whole group to gain information and develop understandings related to each day's focus. During this time, the whole class will be together, but children might at times work independently, with partners, or small groups within the whole group setting. Moreover, these activities are designed to allow children to have a chance to apply their knowledge in a whole group setting before doing so at a station.

Interactive Experience: Each day, students will participate in an Interactive Experience. These activities are hands-on and/or might involve a game or movement, such as creating a pattern dance or building a tessellation puzzle.

Stations: Each day, during station time, students will rotate between two stations, Observation Station and Imagination & Application Station. **Imagination & Application Station** is a place where students can apply what they've learned so far that day or create something new using their imaginations, such as observing a butterfly image closely and drawing it. At **Observation Station,** children will have the opportunity to reflect on observations they made that day, such as during a Five Senses Activity or Nature Walk and record their ideas in a daily Observation Journal. At Observation Station, they will record their observations through writing, audio recording, illustration, or with other art supplies. There will be guiding questions and sentence starters that correspond with the topic of the day to prompt students to develop more detailed observations. There will also be time for students to share their ideas with each other. At the end of camp, children will be able to bring home an Observation Journal with two weeks' observations.

Inspiration Station: This is an optional station that students can visit if they finish other activities early or to learn more. It is meant to be a place where students extend their knowledge or pursue their interests. It will have books at different reading or complexity levels related to camp topics and other resources, (e.g., images or manipulatives) to help students learn more and pursue their interests further.

 Closing Circle: The purpose of the closing circle is to provide closure and end on a positive note. Teachers can reinforce the big understanding1and preview the next day. The home-school connection resource will also be shared at this time, which is a sticker related to a big understanding. This time is designed for teachers to help children reflect on their learning for the day and also to continue to build classroom community.

Home-School Connection: Each day students will receive a home-school connection resource. Students will receive a sticker that they can wear home on their shirts that will say something like, "Ask me about patterns in nature!" In Closing Circle, the meaning and purpose of the sticker will be reviewed and will relate to an activity or big understanding from that day. The stickers can stimulate discussion between children and their families about what they learned that day.

At a Glance for 2019 Summer Intersession Camp Kaleidoscope: Week 1

Big Understanding & Essential Questions	**Big Understanding:** Scientists and artists closely observe the world around them to make meaning. **Student "I can" statement:** I can use my five senses to observe the world around me like an artist or scientist. I can describe or record what I observe. **Essential Questions:** How can I observe closely? What will I discover when I use my five senses to observe? **Concepts:** observation, patterns, color, vision			
	Day 1	**Day 2**	**Day 3**	**Day 4**
Topic	*Introduction to Camp & How to Observe Closely with Our Five Senses*	*How to Closely Observe the World Around Us*	*Introduction to Patterns and Patterns in Nature*	*Patterns in Daily Life, Nature, and Art*
Understandings	• Observation involves paying close attention to the world around us. • Scientists and artists observe the world using five senses—I can, too.	• Observation involves paying close attention to the world around us. • Scientists and artists observe the world using five senses—I can, too.	• Patterns occur in nature. • We can observe patterns in nature. • Noticing patterns in nature can help us. • Scientists use patterns in nature to understand the world around them—I can, too.	• Artists observe, and respond to the world around them. • Artists observe patterns in nature and recreate or change them based on their artistic vision. • Artists create new and beautiful patterns and represent the world around them or their vision.
Essential Questions	• What does it mean to observe closely? • How can I use my five senses to observe?	• How can I learn to observe closely like a scientist or artist? • Why should I use my five	• What are patterns? • How can I identify a pattern?	• Why do we recognize patterns? • Why and how could I identify a

	• How can I describe my experience?	senses to observe?	• Why would I need to identify a pattern? • Why should I identify a pattern in nature?	pattern in nature? • Why do artists use patterns? • How do artists find inspiration for creating patterns?
Do	• Establish routines/build community • Identify all five senses • Apply five senses to observe closely. • Describe experiences using five senses. • Analyze an example of observation.	• Apply five senses to observe closely. • Describe experiences using five senses. • Analyze how a scientist uses the five senses to observe.	• Identify a pattern • Make predictions about pattern sequence • Observe patterns and apply knowledge to patterns in nature • Compare two different patterns from nature • Create a pattern	• Identify different kinds of patterns and find patterns in daily life, nature, and art. • Identify different patterns. • Create a pattern. individually and with a group. • Understand why artists create patterns.
Opening Circle	• Getting to Know You: Toss the Beach Ball. • Discuss community and classroom routines. • Mention Inspiration Station.	• Toss the Beach Ball: My Favorite Things • Preview today's learning	• Name Game • Preview today's lesson. • Partner Patterns	• Welcome to class—review learning so far this week
Whole Group	• Preview what camp will be like using manipulatives.	• "How to Observe like a Scientist" slides	• Analyzing Patterns in Nature:	Creative Patterns: • Learn about different kinds of

	• Watch and discuss "Austin's Butterfly" video.	• Observation practice	Comparing Two Snakes	patterns other than repetition. • Show patterns in art and nature. • Emphasize how patterns are used creatively
Read Aloud	*Me and My Senses*	*Rachel: The Story of Rachel Carson*	*Lots and Lots of Zebra Stripes: Patterns in Nature*	*Bees, Snails, and Peacock Tails*
Interactive Experience	Five Senses Rotation Experience	• Introduction to observation • Nature Walk or Nature Walk in a Box	Creating Patterns with Movement–Dance Video	Ocean Tessellation
Stations A) Imagination & Application Station B) Observation Station C) Inspiration Station	Stations Introduction and A) Observing and Drawing like Austin's Butterfly B) Introduction to Observation Station and Observation Journal, & Five Senses Observations	A) Writing about the five B) Nature Walk or daily life observations	A) Animal Designer B) Patterns in Art or Nature	A) Pattern Art B) Daily Observation or Patterns in Art or Nature
Closing Circle	Toss the Beach Ball: One Word to Describe Day 1	Day closure: Introduce your Friend Game	Day closure: Share favorite animal with class. Does it have a pattern?	Day closure: Which color describes your feelings for the day?
Home/School Connection	Sticker: "Ask me how I used my five senses today."	Sticker: "Ask me what I observed in nature today!"	Sticker: "Ask me about finding patterns in nature!"	Sticker: "This weekend, I will observe… " Students could choose a sticker or draw an image, like a star or tree, to show what they'll observe.

At a Glance for 2019 Summer Intersession Camp Kaleidoscope: Week 1

Big Understanding & Essential Questions	**Big Understanding:** Scientists and artists closely observe the world around them to make meaning. **Student "I can" statement:** I can use my five senses to observe the world around me like an artist or scientist. I can describe or record what I observe. **Essential Questions:** How can I observe closely? What will I discover when I use my five senses to observe? **Concepts:** observation, patterns, color, vision			
	Day 1	**Day 2**	**Day 3**	**Day 4**
Topic	*Introduction to Camp & How to Observe Closely with Our Five Senses*	*How to Closely Observe the World Around Us*	*Introduction to Patterns and Patterns in Nature*	*Patterns in Daily Life, Nature, and Art*
Understandings	• Observation involves paying close attention to the world around us. • Scientists and artists observe the world using five senses—I can, too.	• Observation involves paying close attention to the world around us. • Scientists and artists observe the world using five senses—I can, too.	• Patterns occur in nature. • We can observe patterns in nature. • Noticing patterns in nature can help us. • Scientists use patterns in nature to understand the world around them—I can, too.	• Artists observe, and respond to the world around them. • Artists observe patterns in nature and recreate or change them based on their artistic vision. • Artists create new and beautiful patterns and represent the world around them or their vision.
Essential Questions	• What does it mean to observe closely? • How can I use my five senses to observe? • How can I describe my experience?	• How can I learn to observe closely like a scientist or artist? • Why should I use my five senses to observe?	• What are patterns? • How can I identify a pattern? • Why would I need to identify a pattern? • Why should I identify a pattern in nature?	• Why do we recognize patterns? • Why and how could I identify a pattern in nature? • Why do artists use patterns? • How do artists find inspiration for creating patterns?
Do	• Establish routines/build community • Identify all five senses • Apply five senses to observe closely. • Describe experiences using five senses. • Analyze an example of observation.	• Apply five senses to observe closely. • Describe experiences using five senses. • Analyze how a scientist uses the five senses to observe.	• Identify a pattern • Make predictions about pattern sequence • Observe patterns and apply knowledge to patterns in nature • Compare two different patterns from nature • Create a pattern	• Identify different kinds of patterns and find patterns in daily life, nature, and art. • Identify different patterns. • Create a pattern. individually and with a group. • Understand why artists create patterns.

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Opening Circle	• Getting to Know You: Toss the Beach Ball. • Discuss community and classroom routines. • Mention Inspiration Station.	• Toss the Beach Ball: My Favorite Things • Preview today's learning	• Name Game • Preview today's lesson. • Partner Patterns	• Welcome to class—review learning so far this week
Whole Group	• Preview what camp will be like using manipulatives. • Watch and discuss "Austin's Butterfly" video.	• "How to Observe like a Scientist" slides • Observation practice	• Analyzing Patterns in Nature: Comparing Two Snakes	Creative Patterns: • Learn about different kinds of patterns other than repetition. • Show patterns in art and nature. • Emphasize how patterns are used creatively
Read Aloud	*Me and My Senses*	*Rachel: The Story of Rachel Carson*	*Lots and Lots of Zebra Stripes: Patterns in Nature*	*Bees, Snails, and Peacock Tails*
Interactive Experience	Five Senses Rotation Experience	• Introduction to observation • Nature Walk or Nature Walk in a Box	Creating Patterns with Movement– Dance Video	Ocean Tessellation
Stations A) Imagination & Application Station B) Observation Station C) Inspiration Station	Stations Introduction and C) Observing and Drawing like Austin's Butterfly D) Introduction to Observation Station and Observation Journal, & Five Senses Observations	C) Writing about the five D) Nature Walk or daily life observations	C) Animal Designer D) Patterns in Art or Nature	C) Pattern Art D) Daily Observation or Patterns in Art or Nature
Closing Circle	Toss the Beach Ball: One Word to Describe Day 1	Day closure: Introduce your Friend Game	Day closure: Share favorite animal with class. Does it have a pattern?	Day closure: Which color describes your feelings for the day?
Home/School Connection	Sticker: "Ask me how I used my five senses today."	Sticker: "Ask me what I observed in nature today!"	Sticker: "Ask me about finding patterns in nature!"	Sticker: "This weekend, I will observe… " Students could choose a sticker or draw an image, like a star or tree, to show what they'll observe.

At a Glance for 2019 Summer Intersession Camp Kaleidoscope: Week 2

	Day 5	Day 6	Day 7	Day 8
Topic	*All About Colors*	*Color Vision*	*Colors and Art*	*Culmination: The Wonderful Things We Will Be*
Understandings	• Colors combine to make other colors. • Artists observe colors and experiment with them in creative ways. • Studying light and color together can allow scientists to discover and/or create things.	• Our eyes and brains work together to see color. • Color vision can help us see and respond to the world around us. • Studying light and color together can allow scientists to discover and/or create things.	• Some colors are considered warm or cool. • Colors can affect mood and feelings. • Artists use colors to represent reality or to represent feelings.	• Observation involves paying close attention to the world around us. • Scientists and artists observe the world using five senses to discover new things and create; I can, too. • Challenging yourself and learning new things can help you do wonderful things in the future.
Essential Questions	• What are colors? • How are colors created? • How can I combine colors to make other colors? • How do artists use color?	• How do we see color? • Why can we see color? • How does color vision help people and animals?	• How do different colors make me feel? • How can I use color to represent how I feel? • How can I use color like an artist?	• How can my observation skills help me observe closely in daily life and discover new things? • How can I use observation to create art? • What are the wonderful things that I have done and learned this week? • What wonderful things do I want to do in the future?
Do	• Identify primary and secondary colors • Identify shades of different colors • Predict what happens when colors mix • Create and name new colors	• Identify the colors in the color spectrum • Understand that not all light is visible to the human eye • Comprehend and explain how and why humans see color. • Analyze images of animal vision • Compare human vision to different animals' vision	• Identify colors as warm or cool. • Analyze the role of color in paintings (e.g., mood, contrast) • Create art using color to represent mood or feeling.	• Reflect on what we have learned during camp • Imagine roles for future goals or careers. • Create new patterns (using shapes, colors).
Opening Circle	Favorite colors and color names in different languages	• Greeting game	• Greeting game • Making Colorful Friendship Bracelets	Balloon Bouquet with Colorful Notes

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		• Questions about Color and Color Vision		
Whole Group	Basics of Color and Types of Color: Primary, Secondary, Color Wheel	Comparing How Animals and Humans See Color and Animal Vision Game	How Artists Use Color to Represent Feeling presentation	Observation Journal Presentation: Share your favorite observation from your journal.
Read Aloud	*Mix It Up*	*What If You Had Animal Eyes?*	*My Many Colored Days*	*The Wonderful Things You Will Be*
Interactive Experience	Personal Palette	Interactive Color Spectrum	Pengoloo: Color and Memory Game	Kinetic Sand and Colors and Patterns with Sand
Stations A) Imagination & Application Station B) Observation Station C) Inspiration Station	A) Recreate a Famous Painting B) Observations about Color or Colorful Art	A) Writing or Reading a Story about Animal Vision Observing Animal Vision	A) *Heartbeat* by Sharon Creech Still Life of Fruit	A) Wonderful Things I Will Be artwork, drawing or collage B) Choosing Your Favorite Observation
Closing Circle	Beach Ball Toss: "Pick a color any color;" the color on the beach ball corresponds to a question game	• Share Questions: one thing you want to learn more about from camp • Beach Ball Hot Potato Toss Game	Color & Feeling: What color represents your feelings after today? Why?	Congratulations on what we've learned this week.
Home/School Connection	Sticker: "Ask me about the colors I created today!"	Sticker: "Ask me about color vision."	Sticker: "Ask me about how my favorite color makes me feel."	Sticker: "Ask me about the "wonderful things I will be" in the future!" Bringing home: Observation Journal, portfolio, and kinetic sand

Appendix C

Project Kaleidoscope Observation Protocol

Summer Session Observation Protocol

Teachers: _____

Assistants: _____

Site/School: _____

Date: _____

Topic: _____

Number of Children: _____

DO NOT TAKE PICTURES OF CHILDREN

Prior to Observations
- Prior to observations, read (copy, if needed) lesson plan for annotating significant "moments": Consider deviations for possible follow-up, conversations and engagement (or lack thereof), etc. [See **Materials** and **Instruction** below.]
- Attach student list.
- Discussion with teacher regarding any anticipated changes.

Environment
- Note whether teacher is in her own classroom or someone else's [may impact extent to which teacher posts items on the wall or makes other decisions]
- Orient yourself to the classroom by describing the locations of stations, materials, student desks, etc. Look for examples of literacy embedded within the classroom. You may wish to draw a map, but all of this is only necessary one time. [If you are a subsequent observer, get map from prior observer and supplement as appropriate]
- Take daily pictures of Anchor charts to see the evolution [beginning and end of day]
- What things get written on the board?
- What things get hung on the wall?

Materials: Make note of deviations

Instruction
- Make note of deviations
- Notable interactions (e.g., student interactions and comments; student questions/teacher responses; unexpected moments, good or bad; student responses to activities, good or bad)
- Implementation of aspects from modules

Assessment and Data
- How are teachers using data, both formal and informal (e.g., child work, responses, behavioral cues, etc.) to inform their instruction?

- Do teachers appear to be assessing (formally or informally) children and, if so, how?
- What type of feedback are teachers providing to children?
- Photograph data collection to the extent possible (clipboard use, etc.)

Talent Development
- The extent to which teachers facilitate talent (e.g., not being "sidetracked" by behavioral issues and instead positively redirects, allowing children to explore ideas)
- Do the teachers appear to recognize that students have different language backgrounds?
- How is language instruction differentiated by the teachers? How do they make these decisions? [Differentiation does not need to be built into lesson, but can happen in the moment.]
- Are children interacting with texts (whether they can read them or not)?
- Are teachers allowing for children to go beyond the original scope of activities?
- Are open-ended questions being asked, and if so does the teacher allow for a follow up question that "pushes" student understanding?

Read-Alouds
- Open-ended questions (as opposed to yes/no questions)
- Follow-up questions
- Think time
- Honoring children's unique/creative responses
- Introduction of new vocabulary (and how?)
- Who (and how) are children being selected for responses and/or being provided opportunities respond? Consider opportunities for children to
- Manner in which text is used (e.g., read, shown, summarized, etc.)
- Note substantive versus tangential conversations regarding the texts

Student Work
- Photographs of creations (writing, drawing, etc.)
- Capturing data from storytelling center via photographs and/or field notes

Observer Reflection: Voice memos permissible
Time Stamps: Add time stamps as needed – especially if the teachers make significant changes to the suggested timing in the curriculum.
File naming system:
School_Teacher1LastName_Teacher2LastName_2018.month.day_observerinitials_observation_final

Appendix D

Project Kaleidoscope Summer Intersession 2019 Interview Protocol

Thanks for teaching this year. It is great to be able to see the kids in action and to provide them with opportunities that they might not otherwise have access to. Thanks also for your willingness to talk with me today. I've got some questions that focus on 3 big areas. I'll ask you some questions about the curriculum and camp generally, the students, and the data you have been collecting. There's no right or wrong answer and you both should feel free to pipe in to respond. Do you mind if I record our conversation? It's easier so that I don't have to try to write down what you say. We'll have the recording transcribed and then it will be destroyed.

NOTES for interviewers: 1. *If they don't want you to record, then you will need to scribe the best you can how they respond. If they agree to be recorded, use two recording devices if possible so you have a back up.*

2. Remember you will need to listen to hear the data…this is where follow-up questions come from…building off their responses to your question.

3. Make sure they have access to the data that they collected on each student.

The first topic is on the Curriculum and the Camp itself:

1. What were your overall impressions so far of the camp experience for you? For the kids?

2. What lessons/activities did you think were the best so far? Why?

3. What lessons/activities didn't work? Why?

4. As you know, the interactive read alouds were a central part of the lesson each day. Would you describe how the read-alouds have been going? (For example, how did the students engage with the story? Make connections to prior knowledge? Use information from the book as a jumping off point for asking their own questions? How did it help the students to grapple with the understandings and essential questions for the day?)

What worked well or what didn't work? Why?

5. Would you describe how the anchor charts have been used so far? (For example, how did the students engage with the anchor charts? How did it help the students to grapple with the understandings and essential questions for the day?)

What worked well or what didn't work? Why?

6. The observation station was a new component this year and occurred daily, giving it a prominent place in this curriculum. Describe your approach to implementing this center. (i.e., what technology did you use, how did you use it? How did you introduce the center every day? How did you work with the students during the center?)

How did the students respond to this center? In what ways did this center help to allow for or hinder students' expression of their knowledge and ideas about the essential questions and understandings?

What worked well or what didn't work? Why?

Before we move on, do you have anything else you want to add about the curriculum or camp itself?
I want to move to a couple questions about the kids.
As you know, the camp lessons were designed to foster student literacy through talent development activities that didn't feel like typical school. This allowed students to show off their TABs in ways that perhaps doesn't typically happen in school. The kids that were invited were kids that had a discrepancy in their PALS scores and the DAP.

7. Overall, what have you noticed so far about students? **(For example, in terms of their growth and change over the two weeks or as compared to the previous school year, in terms of their TABs, or in terms of their interaction with the curriculum and/or each other and the teachers. Encourage the teachers to share about all of the students. They are welcome to refer to any notes or data they have.)**

8. Have any particular students stood out for you? Who? Why? **(You may have a couple students that you are particularly interested in and if they don't name them you can ask specifically about them.)**

9. Would you refer any of the students from the camp to receive additional support from the GRT? Do you think that with continued support the student might be nominated for screening for gifted services?
        If yes, who and why?
I'd like to ask you about the data that you collected over the two weeks. I noticed that you collected data by <<<FILL IN THE BLANK (clipboard, notebook with a tab for each student>>>.
10. Is this something that you do during the regular school year?
If yes, how often? How do you use the data?
11. In general, what are the types of things that you noted about students?

Final question
12. What have you learned so far from teaching the summer session? Is there anything you plan to take from this experience and implement during the school year? If so, what? Why? What are you looking forward to for the last few days of camp?
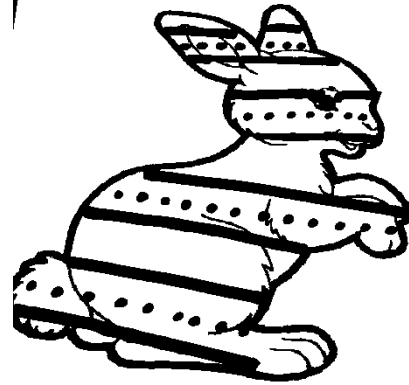
Appendix E

Imagination and Application Station Example

Imagination & Application Station	**Materials:** markers, colored pencils, pencils, crayons, Animal Design Pattern Page, Animal Design outlines of different animals

| **Purpose:** The purpose is for students to apply what they've learned about patterns so far in a fun and creative way by designing their own patterned animal. ||

This station is about designing animals. Students will apply what they learned about patterns so far to create a unique pattern and design a wacky animal. First, hand out the Animal Design worksheet and explain the directions. Then, hand out colored pencils or markers. Gather the print outs of different animal silhouettes that students will use for the Animal Designer task today.

> *Welcome to the Animal Designer station! Today you are going to choose an animal. They are missing their colors, stripes, and spots!*
>
> *You get to design a pattern and choose the animal that will wear your design. We have many blank animal drawings to choose from or you can draw your own animal.*

Remind Students What a Pattern Is
> *The only rule for this assignment is to create true pattern. Remember, a pattern is a sequence with elements that repeats in a particular, predictable order. Elements might be colors or certain shapes (spots, stripes).*

Directions for Animal Design Page
After the teacher checks each students' pattern plan to ensure that it has elements of a pattern (repetition in a predictable way), then students can choose an animal. Designing the pattern first ensures the focus is on creating a pattern, not only coloring the animals. Students can choose from different silhouettes of animals. Check on the design of a pattern for the animal before having students color the animal.

> *Let's take a look at the Animal Designer Pattern Design page. Maybe I want to create a flamingo that is decorated with a pink dot, yellow line, pink dot, yellow line. That is a very simple pattern.*

Create a pattern using the Animal Designer Pattern Design Page.
The Animal Designer Patter Design Page looks like this:

Explain Original Pattern:	**Example of Designed Animal:**
Explain to me why it is a pattern. You can have more than one pattern, too, on different sections of your wacky animal. Maybe half would be a pattern of different-colored stripes, and the other half would be a pattern of triangles, squares, and circles in different colors.	

Appendix F

Read Aloud: *Lots and Lots of Zebra Stripes: Patterns in Nature*

Read Aloud 10:05-10:25 20 min	**Materials:** "Patterns in Nature" Anchor Chart, marker, sticky notes *Lots and Lots of Zebra Stripes: Patterns in Nature*

Purpose of reading this book: This book's illustrations show many examples of patterns that can be observed in nature. You'll use the book as a venue to spark interest in patterns and use the illustrations and text as a way to help students formulate further questions about patterns in nature. Through reading, students could practice pattern transfer; they could compare patterns in the book to what they have observed in their lives (e.g., at the zoo or out in nature, at home, or on clothing).

Activity Prep: Prepare a three column Anchor Chart: "Before and While Reading Questions," "Examples of Patterns in Nature," and "New Questions." Use this anchor chart to record more student questions and information about patterns from the read aloud.

Before Reading

> *Today, we are reading a book called* <u>Lots and Lots of Zebra Stripes: Patterns in Nature.</u> *You will see photos of different animals and plants and other places in nature you might see a pattern, like frost on a window.*

> *What did you notice yesterday on the nature walk when you closely observed? Did you notice any patterns in nature?*

Students turn and talk then share with the group.

Sample "Before Reading" Prompts:

- *Take a look at the book cover. Do you think this is a real/nonfiction book or make-believe/fiction book? Why? What makes you say/think that?*
- *What do you wonder about the book?*
- *What do you hope to learn from this book about patterns?*
- *What questions do you have about patterns that you hope to learn more about from this book?*

While Reading
You might want to walk around so students can get an up-close look of patterns on the pages. Pause and ask students to share with a partner or the group examples of similar patterns on related animals or plants. For example, after the book says, "Patterns can be circles or spots" (p.4), it shows a cheetah.

> *Example: Can you name other animals with a pattern of spots or circles on them?*

After the book says, "Patterns can be stripes or lines" (p.5), ask:
- *What is another animal with stripes?*
- *How is the pattern slightly different from a zebra? Tiger—has orange and black not white and black stripes.*
- *Do you have any questions about what we've read so far?*
- *What have you learned about patterns or patterns in nature so far?*

Practice Formulating Questions for Further Inquiry
You could ask students specific questions after reading certain pages to model how to formulate questions for further inquiry.

> *Scientists often make observations and then create questions for more inquiry.*
> *For example, you might ask questions like a scientist, like the following questions:*

- *Why are rings on a tree a pattern*?
- Add a question for more research might be about interpreting the pattern: *What do rings on a tree mean? (p.12)*
- *Why is a rainbow a pattern? Why does a rainbow have different colors? How is a rainbow created? (p.14)*

When looking at patterns on animals, students might formulate a question like, *How might patterns help an animal survive in nature?*

> *For example, scientists have more than one hypothesis about the purpose of zebra stripes. Some zebras have more stripes than others. Believe it or not, scientists still are not sure why zebras have stripes and they are doing more research to find out even today!*

After Reading
After reading, you could add to the anchor chart about what students learned about patterns in nature and add any new questions that arose from the book. The book should be a vehicle not just for learning but to lead to future learning by asking to formulate more questions for inquiry based on what they learned while reading. Think of the book as a way to learn about patterns and spark more interest about patterns in nature.

If students' questions might be answered with additional resources at the Inspiration Station with the book about the Fibonacci sequence in nature or another book, direct them to stop by that station later in the day.

- *Did you learn anything about patterns that you did not know before? If so, what?* [Teacher can add new things students learned to the Anchor Chart]

Generating New Questions: Sticky Note or Turn and Talk
When students create questions for further inquiry, help them write or draw ideas or questions on a sticky note and add to the Anchor Chart. Or students can turn and talk to discuss their questions.

- *What else do you want to learn about the many types of patterns in nature?*
- *What questions could you ask to learn more about patterns or patterns in nature?*
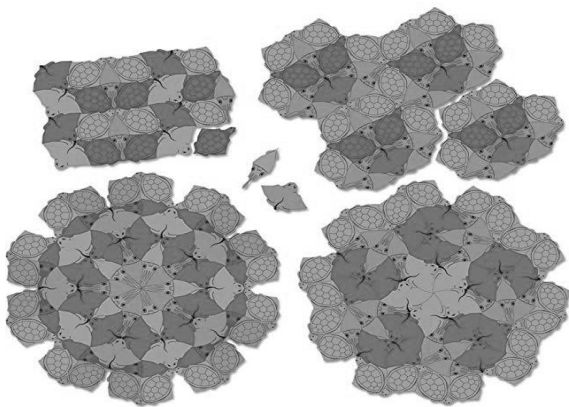
> *Now everyone will get a sticky note in case you would like to write down one of your questions, but you can talk instead of writing if you'd like. Please chat with a partner about questions you have for further inquiry—that means something that you want to learn more about based on what you have just learned while reading the book. If you would like, you can come up and look at the book. Study the illustrations and reread certain pages to help you formulate your questions.*

Whole Group Closure
> *Let's circle up and discuss the questions you came up with. Later in the day, during station time, you could learn more about the answers to your questions. These questions could also be investigated through choosing a book at our school or local library or searching online with a parent, family member, or teacher.*

Day 4: Interactive Experience: Ocean Tessellations Puzzle

Interactive Experience 10:10-10:40 30 min	Materials: chart paper markers for Anchor Chart Ocean Tessellation puzzle

Purpose: Students will learn to work together to understand elements of patterns and apply understanding by using patterns to create a tessellation.

Activity Prep: As a group, the class will put together the ocean tessellation puzzle. You might want to try to put part of the puzzle together before to show the students as an example and so that you have the experience of doing the puzzle and can better assist the students. For example, before the group starts the puzzle, you will focus on the squid in the middle as an example, so you could have that part put together for the students. There are different ways to complete this puzzle. Because it is flexible, you can vary the level of challenge.

Grouping: You could group students by giving some students the middle pieces of jellyfish, another group stringrays, and another group, turtles.

Differentiating by Readiness: Students can experiment with putting together the tessellation any way they can. Then, for additional challenge, they can follow the color pattern. For example, the border of turtles in one version of the puzzle has green, green, purple, purple.

Students who have more experience with patterns could work with stingrays, since that is a more complex pattern. The middle squid require color and rotation pattern understanding.
The easiest task is the turtle border--although it also requires rotation, it is less complex and uses two colors instead of three. All students are participating in a fun, inviting task, and all students are replicating a pattern that involves complexity, such as rotational patterns.

Informal assessment to determine student readiness: You could informally assess students as they are working by collecting data and recording student responses to the questions below or listening in as they discuss while examining the puzzle pieces. You could use students answers to questions such as
- What is the pattern that we see just of the squids?
- How is rotation used in this pattern?

Or you could watch students as they manipulate the shapes if you decide you want to group them into three groups to create the tessellation.

Now we are going to create an Ocean Tessellation as a group. There are three different shapes. We can describe it on our Tessellation Anchor Chart.

The shapes are mixed up and they are not put together like we see on the puzzle box.

What are the three shapes that you see?

- *A stingray*
- *A turtle*
- *A squid*

What are the different colors?
- *Blue*
- *Green*
- *Purple*

What are all of the different elements in the pattern?
- *Blue, green, and purple squid*
- *Green and purple turtles*
- *Blue, green, and purple stingrays*

*Let's examine the middle of the puzzle. Here the squids come in three colors. We can look at the image on the slide (*or the actual puzzle if it is assembled).

*What is the pattern that we see just of the squids? [*wait for student responses]

Purple squid, green squid, purple squid, green squid.

How is rotation used in this pattern?

Now we are going to work together as a group to create this puzzle.

Make sure that students are working together collaboratively so that one student does not direct the whole puzzle-making process. As you guide students through the process, before starting on the puzzle, you could make an Anchor Chart about the moving pieces of the tessellation so students can understand each element of the pattern.

Once students have assembled the puzzle, you can lead them in a discussion about the importance of patterns and ways that they can apply patterns to daily life. You might explain the following:
Importance of Patterns
> *Patterns are made up of many different elements that repeat in unique ways. The Ocean Tessellation pattern is more complicated.*

> *Learning to recognize a pattern can help us make predictions about what comes next. Patterns are used in math and art, but patterns can also occur in our daily life, like through routines or events in our lives.*

Closure: Applying Patterns to Daily Life

Can you think of a pattern based on events in your daily life, such as the things you do or things that happen to you?

For example, every Tuesday after school does your grandmother pick you up instead of mom or dad or riding the bus? And each Saturday you have a soccer game? When you recognize a pattern, you can figure out what will happen next and prepare for it.

Let's turn and talk to a partner.

Here is a good opportunity to add to the relevant anchor chart(s) based on student talk.

Extension: Students can look at an image of the tessellation to help them put together the puzzle, or use no image for additional challenge. There is more than one way that the puzzle could possibly be put together. Decide if you'd like students to follow an image on the puzzle box or work inductively.

Teacher-Facing Teacher Training Agenda

Camp Kaleidoscope Training Agenda

June 6 (Ruffner 200) and June 7 (Ruffner 206)
9:00am – 3:00pm
June 6

Approximate times	Activities and Topics
9:00 – 10:00	Introductions and Overview Review of TABs
10:00 – 10:30	Camp Kaleidoscope Day 1
10:30 – 10:45	Break
10:45 – 11:15	Introduction to the Stations and Station Activities Practice and discuss day 1 stations
11:15 – noon	Camp Kaleidoscope Day 2
Noon – 1:00	Lunch and activity
1:00 – 1:20	Collecting student data
1:20 – 2:30	Camp Kaleidoscope Day 3
2:30 – 3:00	Home-school connection Reflection and Q&A Camp Logistics

Homework: Please read the Day 4 lesson plan
June 7

9:00 – 9:10	Welcome back: Q&A and Reminders
9:10 – 9:40	Camp Kaleidoscope Day 4
9:40 – 10:30	Camp Kaleidoscope Day 5
10:30 – 10:45	Break
10:45 – noon	Camp Kaleidoscope Day 6
Noon – 1:00	Lunch and activity

1:00 – 2:00	Camp Kaleidoscope Day 7
2:00 – 2:30	Camp Kaleidoscope Day 8
2:30 – 3:00	Classroom management overview
	Logistics of camp
	Reminders
	Q&A

Turn in: Evaluation form and reimbursement paper work

Trainer-Facing Teacher Training Plan

Camp Kaleidoscope Teacher Training 2019 Plan

Agenda Time	Activity Timing	Activity	Lead Presenter	Materials Needed
9 - 10	5	General Introductions	KM	Beach ball TABs handouts

Day 1-3 BIG version of At a Glance |
	5	Beach ball intro game	LP	
	20	TABS: Who is coming to camp? Review of the TABs: characteristics of who they are, building an image of kids to think about when the teachers are imagining lessons	KM	
	10	Introduction to the Curriculum • Broad overview • Sharing of values • Big understandings • Concept-based • Framework for thinking about the curriculum	Intro: LP Reflect: KM	
	5	Big Ideas about Curriculum Emphasize the concepts and big understandings for the first few days: How do scientists observe and record the world around them? How do artists observe and respond to the world around them?	KM	
	5	Underlying Values and purpose of curriculum	LP	
	5	Discuss the At-a-Glance and the components of each day - look like school, but doesn't feel like school	LP	
	5	Revisiting Big Ideas Overview of the plan for teacher training for these two days	KM	
10:00 - 10:30		**Day 1** Discuss: Review the schedule for day 1 using the day 1 at a glance. Emphasize the essential questions and understandings. All the parts of the lesson fit together.	KM	Five Senses handout for students (printed copies
		5 senses rotation	LP	

		Model one of the rotations by doing it together as a whole group. Then have the teachers work through a second rotation in pairs. Debrief after each. • For the model, show an example and non-example version of how this could be implemented and weave in the use of descriptive words. ° Discuss: How to make modifications to fit the needs of the students without losing the purpose of the activity ° Discuss: how to reinforce the big understandings and skills. ° Discuss: Anchor Chart with descriptive words. Exemplar word list-- how to incorporate list? How do you as the teacher weave those into discussion with students while they are working at five senses stations? • Teacher practice: let the teachers practice asking questions to each other and applying what they learned from the model. ° Discuss: Strategies for grouping students. ° Discuss: How those TABs behaviors might show up during an activity like this. ° Discuss: Roles of two teachers		for teachers to use), computer queue up sounds for sound stations sensory objects (LP can bring) Model the Anchor charts for each station Refer to printed exemplar word list in curriculum guide
		Closure: How does this activity exemplify the main focus of the camp? EQ and Us - as well as underlying assumptions	KM	
10:30 - 10:45		Break		
10:45 - 11:15	10	Observation Station Introduction • This station stays the same every day. The students will have opportunity to record ideas in a daily Observation Journal or use other materials - the goal is to build a portfolio of observations (will share at the end of camp) • Each day, there are guiding questions and/or sentence starts that correspond to the topic of the day • Balance between support and autonomy • Teachers will write about an image, object, or song and observation in the journal to practicewhat students do each day • Student choice - offer choices but keep focus Imagination and Inspiration Station • The activity in this station changes every day, but it is always related to the focus and main concepts for the day. • The focus of this station is for students to apply something they learned in an imaginative way	KM	Observation journals (teacher keeps one copy for models) Photo postcards to model what they'll look at at Obs station Example Imagination Station products for teachers to see? Such as Heartbeat

		Optional Reading Center: Inspiration Station		Anchor chart, student art
	15	Practice and discuss day 1 stations: Watch Austin's Butterfly video and teachers can discuss the station activities together • Students will see the video earlier in the day during the whole group activity, in both stations, you will refer back to it. • Ask teachers to read through the directions for both stations and discuss with each other. What will these look like in the classroom? What is the main focus of each? Strategies of management. o How might you modify one of the stations without losing the focus on the learning goal? (example and non-example)	KM	computer Image of butterfly?
	5	Day 1 Closing Circle- quick overview	LP	
11:15 - noon	1	**Day 2** Review essential questions continuation from day 1 - how the concepts build	KM	
	20	Model and practice: Rachel Carson read aloud • we will model some pages and then they will practice additional pages in partners - write sticky notes in book, where to read and where to paraphrase • using manipulatives during the read aloud Discuss: • why it is early in the day • why the book was chosen - age of the kids, how she observed the world closely - this is threaded through the rest of the day • how to do a read aloud with an above grade level text and how to adapt it for planning for the read aloud to allow students to access the ideas	LP	
	10	Model and discuss: whole group activity with slides • how to use slides and how to involve students - keep this active - effective use of manipulatives - add movement. How do scientists observe slides	AB	

	15	Discussion: Interactive experience and stations
		• Nature walk
		  o options
		  o making this interactive
		  o tying together with read aloud, etc.
		  o making meaningful (nature walk vs. just a walk)
			JP	

		• Stations
		  o alignment and application of what we did earlier
		  o student choice elements
		  o sentence starters
		  o think through options at each station and how to make decisions about these options for your students (options, extensions, etc.)
		what do you do if students get stuck or struggle? using illustrations, manipulatives, etc.		

noon - 1:00		Lunch and activity Activity: read through read aloud books for first two days and add sticky notes where needed to ask questions.		
1:00 - 1:20	20	Collecting student data • what do we mean by data? • why collect data? • how to collect data? • who should be collecting data? • when is a good time to collect data? Review strategies used in prior camps Let returning teachers sharehow they collect the data. Review lesson plan of day 1 or 2 with partner teacher and where/when/how they will work to collect data; have partners share.	KM	
1:20 - 2:30	15	**Day 3**: Patterns Discuss: student background knowledge on patterns - how are the activities today designed to solicit a more sophisticated understanding Model: Opening circle (whole group) pre-assessment, spark student interest, how to use Slides here Model: snake comparison whole group activity • share handout • read world application of patterns - in nature • why is this important	LP	Computer with slides Worksheets: 1. Snake worksheet, 2. Animal Designer, 3. Animal silhouettes book: *Lots and Lots of Zebra Stripes*
	15	Model and discuss: Read aloud of *Lots and Lots of Zebra Stripes* • Do quick model read aloud of pages up to the snake. Model before reading and two during reading questions. – All models are extension questions. Why is that appropriate for this book? – (not difficult content, familiar content, drawing on students prior knowledge	KM	Show anchor chart

		and ability to make connections to keep engagement and as a means of data collection
		• close vs. open-ended questions - helping students come up with further questions for inquiry
		• options for responding: talk, write, draw
		• anchor chart
		   o Prepare a three column Anchor Chart: "Before and While Reading Questions," "Examples of Patterns in Nature," and "New Questions."
		• how to help students generate questions
		   o Give stem of I wonder… - have everyone generate an I wonder statement
		• Teacher Tip: question stems, model prompting questions		

	10	Practice: Troll dance video - do this! • more than kids jumping around - conceptual understanding • how is this similar to the snake activity? • closure for each activity - emphasize	JP, AB, LP	

	10	Practice and review materials for stations
		• ask teachers to read over the station directions and have them write/share
		   o what is the learning emphasis
		   o what will the teacher do to make sure this comes across
		animal designer builds off of the snake - focus on the pattern part of it
			KM	

2:30 - 3:00	10	Home-School Connection • What is this? • What do the teachers need to do?	LP	index cards for exit ticket?
	20	Discussion: Revisit underlying purpose and values of curriculum Put the lesson back together again - what are the big take-aways? how does everything flow together? • Exit Ticket • Logistics for this day • Homework: read Day 4	KM	

Day 2 of Training

Agenda Time	Activity Timing	Activity	Lead Presenter	Materials Needed

9:00 - 9:10	10	Opening Check in - Q&A, general concerns Reminder - important to preview the background of the lessons and the books before the camp	KM LP	
9:10 - 9:40	10	Day 4 **Discussion:** Teacher takeaways from reading the day 4 lessons • what are the big ideas? • how do the activities fit together to build understanding of the concepts? • what are you excited about teaching this day? • what are you concerned about or still have questions about?	KM	Ocean tessellation puzzle
	20	**Practice:** Ocean Tessellation puzzle - do this when they get here on the second day. **Discussion** (debrief based on practice of puzzle) Considerations to work into the discussion and activity: • Grouping • different levels of challenge • time to work on the puzzle • this is a more complex type of pattern, with rotations • informal assessment • assign students different tasks based on readiness • this is an open-ended task, requires creative thinking • closure - why are patterns important, patterns in nature (tie to Us)	AB (LP – readiness)	
9:40 - 10:30	5	Day 5 Overview essential questions	LP	Mix It Up! book paint paintbrushes chart paper plates or palette Personal Palette handout black tape white paper paint brushes
	5	Opening circle: model and practice	AB	
	10	**Practice:** Read aloud - Mix It Up - have teachers who have done it before share tips for implementing. Direct teachers to preview video if unfamiliar with the book. Emphasis on 'interactive' for the read aloud. • Have teachers do 1-2 pages with a partner (mix up from different schools, experienced v. inexperienced)	KM	
	10	**Model:** Whole group and interactive experience: **model** how to do the anchor chart with paint • talk about equity of participation • involving the kids • potential grouping?	LP	

	• keep the learning goal front and center - artists mix colors purposefully and actively use it - this is about more than naming colors - leads to personal palette activity later (think about how activities fit together) tips from teachers who have done it before for interactive experience for students creating their personal palettes		
	Practice: Observation station have postcards of artwork ready and have teachers observe the art work and practice with a partner ask and answering the questions about the artwork. How would you do this in the classroom? How could you work in writing?	JP	
10			
10	**Model and Discuss:** Imagination and Application station • how to do this - it's not too hard (don't be overwhelmed) • Leighann should model how to do this • point out prompting questions - go beyond just pointing out colors • Timing and flow for this activity	AB	
10:30 - 10:45	Break		
10:45 - noon	**Day 6** **Discuss:** review background information, important for this day, take a close look at the "knows" • most complex day and most unfamiliar content, so we are going to spend time on it. Teachers will need to prep.	LP: how teach ers can revie w backg round infor matio n and terms	1. computer 2. slides 3. materials for color spectrum interactive experience: colored constructio n paper, UV, infrared 4. Anchor chart with color vision questions and examples 5. *What If You Had Animal Eyes* book? 6. role cards 7. images around the
5			
10	**Discuss:** Opening circle - generating questions to find out more about animals and human color vision • scaffolding if students don't have questions, how to support this • make anchor chart • tie to EQs	LP	

15	**Model:** Read Aloud: What if you had animal eyes?
	• We will model reading this book
	    o Good book to set purpose for reading
	    o Model: before reading question – fiction vs. non-fiction – this is a hard one from the cover … need to talk about
		KM	

	○ Make a cheat sheet as you read - help the kids to decide which they like best, review it at the end. (anchor chart or on board – list all animals and what visual benefit they have) - pausing to really look at the illustrations - using turn and talks to involve students - creative extension question ○ Turn and talk: Which kind of animal eyes would you like to have? Why? ○ What would you do if you could see the world in a new way? Think about the video we watched earlier about how a chameleon's eyes move.		room for whole group 8. Eye Spy 9. Eye to Eye 10. computer with websites/images of animal vision
25	**Model, Practice, Discuss: Whole Group** - preview background information - really important for this lesson - introduce role cards - have each teacher take a card **Model:** going through the slides, different ways of explaining this to kids - address questions ○ tying back to the role cards **Practice:** Set purpose for looking at the EyeSpy and Eye to Eye books. Have the teachers work in pairs to explore the books and take "notes" using their role cards. As they work, they should discuss how they will do this in the classroom. Then debrief as a group. Points to emphasize: ○ teachers need to make decisions about how to organize this activity ○ share strategies for how kids can take notes (making marks on their cards with the color the animal can see) ○ can use book and website during this time - website can supplement the book ○ use this time to show kids how to find information in a text that is relevant to their animal (using text features) - have discussion about the animal on their card **Discuss:** match role cards to picture - gallery walk style - kids will need help with this - kids can share with the group, why is this the picture? how did you know? ○ teaching up opportunity - how do we help kids be successful with it (outside of comfort zone) - this is a moment when kids might struggle, how to continue to make it fun and motivating (some struggle is okay!) **Discuss:** closure - revisit the anchor chart and the kids own questions from the opening circle	LP KM with practical tips for working with informational texts tips	
15	**Practice:** Interactive Experience:	JP	

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		• **Practice:** teachers should do this = play the game • need to prep this activity • use the slides		
	5	**Discuss:** Stations • quick review - skim through, look at website, books for ideas for inspiration station • follow ups on the whole group - pretty straightforward	KM	
noon - 1:00		Lunch prep books with sticky notes for questions for read alouds (all days) make anchor charts		sticky notes pens chart paper
1:00 - 2:00	5	**Day 7** Read the background information, see links for understanding color and mood - new content for teachers, need to be familiar with it	LP	Pengoloo game chart paper computer slides
	10	**Whole group**: **Model:** 2 of the slides **Practice:** have teachers pair up to talk through 2 of the slides, talk through the rest, briefly Emphasize: • open-ended questions, how to address kids who are not on board, don't connect to the example • remind students they can experiment with these strategies in the stations • connect to thinking like an artist	LP	Pengoloo Read Aloud book: My Many Colored Days
	10	**Brief model discussion:** Read aloud -	JP	Fruit for still life activity
	15	Interactive experience **Practice:** Pengoloo - play this for practice, make sure everyone gets it - emphasize learning goal	AB	Heartbeat-- model poem on Anchor Chart
	5	Observation station - teachers need to bring in fruit (apple) in order to do this station on day of	LP	
	15	Imagination and Application Station **MODEL**: reading Heartbeat and writing a poem as a group	LP	
2:00 - 2:30		Day 8 Opening Circle - write on balloons (premade hot air balloons) **Discuss:** skim/talk through imagination/application station - and making collages	KM	sample collage of the "Wonderful Things We will Be" kinetic sand

		Discuss: whole group - sharing observations - logistics of how to do this and prompting questions - giving each other feedback, how to scaffold and do this **Practice:** interactive experience - kinetic sand **Discuss:** closing circle • emphasize growth mind set • emphasize big understandings		
2:30 - 3:00		Logistics of camp Reminders Wrap Up Evaluation form Paper work - reimbursement forms? dinner? travel?	KM	

Appendix J

TABs Form for Teacher Training with Student Cases and Reflection Questions

Framing Camp Kaleidoscope: Thinking about Giftedness in our Students

Ways that Frasier's Traits, Attributes, and Behaviors (TABs) Can Manifest During Classroom Activities

TABs was developed by identifying attributes gifted children typically possess. Using the TABs identification process means that children who are gifted but might not engage in "teacher-pleasing" activities can still be identified and provided gifted and talented services.
TABs Traits:
- Interests: Intense interests, sometimes unusual
- Motivation: Evidence of desire to learn
- Inquiry: Questions, experiments, explores
- Insight: Quickly grasps new concepts and makes connections, senses deeper meanings
- Humor: Conveys and picks up on humor well
  - Might look like: gentle or hostile humor, lots of information about emotions/emotional depth, openness to experience, sensory awareness
- Communication Skills: Highly expressive with words, numbers, and symbols
  - Might look like: unusual ability to communicate even without words, uses particularly apt examples
- Memory: Large storehouse of information (on school or non-school topics)

  - Might look like: has a wealth of information, pays attention to details
- Reasoning: Logical approaches to figuring out solutions
- Problem Solving Ability: Effective (often inventive) strategies for recognizing & solving problems
- Imaginative Creativity: Produces many ideas, highly original

STUDENT CASES
Alfred Jones
This student demonstrates many attributes on the gifted scale demonstrated by TABS. In these examples, look for manifestations of imaginative creativity, inquiry, and interests.
Example 1
Context: In this activity students paint one side of a piece of paper and fold the paper. This action causes the paint to create a symmetrical image.
Alfred: Can we do anything? What we want?
Teacher: You can paint anything you want.
Alfred: Yay! What if you accidentally paint that side [both sides of the paper]?
Teacher: Accidents happen.
Alfred: What if you do it on purpose?
Teacher: Well then, it won't work. What will happen once we fold the painted side onto the blank side?
Alfred: It will smear it. Is this the biggest thing in the universe?

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Example 2
Context: In this activity students write and produce a puppet show.

       In the puppet show activity Alfred kept bringing up the topic of outer space. He was very insistent on incorporating space topics into the play's plot. The rest of his group went along with this fixation and consented to make the show about a black hole.

This student only participates in activities that he is explicitly interested in. Giving him more creative license to allow him to relate activities to an outside topic he shows interest in, or the teacher providing activities related to his interest, has been helpful to get him to participate productively in class.

Reflection: How does Alfred demonstrates imaginative creativity, inquiry, and interests. What activities can you do with your students to give students the opportunity to demonstrate these traits?

Georgina Green

This student demonstrates many attributes on the gifted scale demonstrated by TABS. In these examples, look for manifestations of insight, reasoning, motivation, and problem solving.

Example 1

Context: This student missed a day of class, and the teacher is trying to catch her up by reviewing primary and secondary colors with her.

Georgina is familiar with this concept and eagerly answers all teacher questions in full sentences.

Example 2

Context: In this activity, students are asked to select one or more unique colors that correspond with the plastic pieces they will use for a game. Each student receives the same number of pieces. The pieces are different shapes and colors and the students are charged with hanging them on a plastic tree. Students take turns placing their pieces on the plastic tree and pieces often fall off. Students are trying to be the first one to have all of their pieces stay hanging on the plastic tree.

Teacher: What does this [the directions] mean?
Georgina: Oh! Color.
Observer note: The students pick their favorite color and take all of that color. Now the students have the same number of colors but only two colors each. Georgina figures out the directions and starts splitting up the piles so that each student gets what they need. The students need to figure out what color plastic pieces they are missing. Georgina goes first in the game and it takes her a couple of tries to get her piece balanced.
Georgina: It's the same weight even though there are different shapes.

Example 3

Context: Students are storyboarding a puppet show that they will produce and showcase to their peers. The teacher is leading a discussion about setting.
Georgina: A monster can't be in a backyard because there's no place...so you think a city would be better for a dog cause there's a pool in the city? There's a pool in the city, a zoo in a city, a house in a city.
Teacher: Would you see a pool in the city?
Georgina explains why there can be a pool in the city.
Reflection: Discuss how Georgina manifests insight, reasoning, motivation, and/or problem solving. Are there any other TABS attributes you would assign to this student? Why?

James Brown

James demonstrates many TABS attributes and behaviors. In the following example, look out for their manifestations of communication skills, humor, and memory.

Example 1

Context: This activity involves describing kaleidoscopic images on the board and discussing how kaleidoscopes are made.

James: [stands up and points at the middle of the screen] "If you put it right there, there won't be symmetry."

Observer note: He is right because the halves of the screen are different with different kaleidoscopic images on each side.

 Teacher: "We are going to make kaleidoscopes today. To do that we need mirrors- mirrors go inside of kaleidoscopes."

James: "We have lots of mirrors at my house and in the car. We use them to see ourselves or other cars."

Teacher: "What light do we need to make a kaleidoscope?"

Other student: "We need paper to make the patterns."

Teacher: "That's a good guess."

James: "But no."

Observer note: This is an aside with spot-on timing. He is clearly mimicking something he has heard other people say –probably common in his life. Teacher mentioned to the observer that James knew something about everything and wanted to share it—whether it was okay for him to talk or not.

Reflection: Can you find all three of the indicated TABS in this example? What manifestations look similar to your students?

Appendix K

Excerpt from Teacher Training Slides: TABs-Related Content and Student Work Samples

Who is coming to camp? Thinking about Frasier's TABs

- Trait = "relatively persistent and consistent behavior pattern"
- Aptitude = "capacity to perform in the future or some future ability"
- Behavior = "any response made by a person"

- TABs
  - "Frasier believed that educators and parents/caregivers must have a dynamic and broad view of the ways in which TABs are expressed among different individuals in different contexts."
  - "...a foundation for making inferences about an individual's giftedness among diverse populations"

Grantham & Ford, 2007

Review the TABs: How might they manifest in typical and atypical ways?

- Interests
- Motivation
- Inquiry
- Insight
- Humor

- Communication Skills
- Memory
- Reasoning
- Problem Solving Ability
- Imaginative Creativity

Example 1:
TABs in action

As you listen to the audio clip, pay attention to potential evidence of TABs.

I tauckt a plant theat had a sina that siad not to.
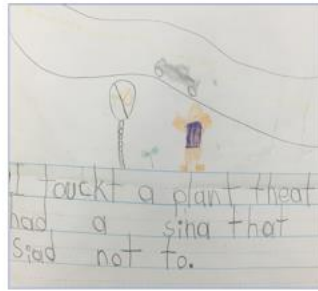
Example 2:
TABs in action

As you listen to the audio clip, pay attention to potential evidence of TABs.

- As you view the student work examples, consider how they may demonstration evidence of potential TABs.

Oma gave Trixie another glass of chocolate milk and remarked on how big she was getting.

Yummy

Trixie understood.
She was getting bigger.

Soon Oma and Trixie were drinking cold glasses of chocolate milk in the garden.

She left knuffle bunny oh the plane

Oh Nooo!

She didn't have to.

TABs Debrief

- What are the important take-aways about TABs?
- How do the TABs relate to Camp Kaleidoscope?

- Expectations for completing TABs forms. What do you need to know and do?

- Other?

Appendix L

Module 11: Cultivating Talent Potential Narration Script

1. Welcome to Module 11. In this three-part module, we'll focus on cultivating talent potential in students.

2. In previous modules, we put literacy concepts front and center. Any discussion about talent development was really embedded in instruction on literacy. In Module 9, we will flip that emphasis to focus on cultivating talent potential in our students.

3. So, as you'll recall, the first six modules were introduced as a series organized by the elements of early literacy.

4. One of the key overarching ideas that carried throughout that literacy series was that literacy develops along a continuum from easier to harder. we recognize that students come to us at different stages on that literacy continuum, and that they develop at different rates. Before we shift to talent development, let's quickly revisit some examples.

5. Writing, for instance, develops in stages, as students move from a combination of drawing and scribbling, to writing letters and letter-like forms, to writing letters that actually match salient and beginning sounds, to writing letters that match beginning and ending sounds of words. That continuum, of course, becomes more complex as students move out of early writing.

6. Phonics and spelling development also move along a continuum, as students move from an emergent understanding, to using letter names which, when pronounced, produce the sound that they're trying to represent.

7. Students develop a concept of word by first being able to say or recite nursery rhymes, but not point accurately to the words, or track by rhythm, rather than by word. To then having a more rudimentary understanding where they begin to track words, but possibly get tripped up by multiple-syllable words, but can self-correct. To finally, having a firm concept of word, when they can accurately match speech to print with finger-point reading from memorized text, and can recognize some words when they see them out of context.

8. In previous modules, we suggested ways to maximize literacy experiences for all students. So, regardless of where a student may fall on the literacy continuum, we're raising the instructional ceiling We call these moments "maximizing instruction," which involves teaching up for all children. Let's review some of those strategies for maximizing instruction.

9. We suggested, for example, building off of child talk in order to build robust vocabularies and to keep instructional expectations high for the whole classroom.

10. Take a look at this example exchange between a teacher and student. Student: I'm really excited for recess. Teacher: Are you extremely excited? Are you extraordinarily excited? Are you extra excited? Student: Yeah! I'm extra excited. In this exchange, you can see that the teacher provides more specific and nuanced word substitutes for the child's use of the word "really." In building off of children's existing word usage in this way, you can help students develop their vocabularies even further.

11. We also looked at deliberately developing children's word webs. Look at this example of two students who have different background knowledge on the topic of "winter." It's our job as teachers to help add words to both students' webs. This example also shows how literacy can potentially mask talent. Student 2 has fewer words with which to express himself, but not necessarily fewer ideas or less complex and deep thinking.

12. Finally, we looked at differentiating literacy experiences so that we can meet kids where they are and then propel them forward from that point, whether it be in creating developmentally-appropriate sorts that meet students' needs, or in creating color-coded leveled activities and centers, or in creating authentic learning contexts in which students can apply their literacy skills.

13. So, as we try to maximize instruction, knowing that students move through literacy stages at different paces, and as we think specifically about talent development, it's key to remember that being at an earlier developmental stage does not signal a lack of talent. Rather, it simply reflects where a student is relative to a particular element of literacy. And in fact, a student's literacy development can actually mask existing potential if students are not yet able to express their ideas in writing or to make the connections in texts that they're able to do outside of reading. In part two of this module, we'll focus on making sense of this idea and on separating talent behaviors and attributes from literacy skills.

14. Before closing this part of the module, take a moment to reflect on how what you've learned here relates to you own classroom. Briefly describe a student whose underdeveloped literacy skills may be masking his or her talent. What might that child look like in your classroom?

Module 11.2 Script

1. Welcome to part 2 of Module 11, which focuses on cultivating talent development.

2. Let's continue unpacking talent development and begin to apply some ideas. In part one, we introduced the idea that underdeveloped literacy can mask a student's talent potential, and in applying that idea, we want to think about literacy skills and talent behaviors or attributes separately.

3. We will practice applying this idea in just a minute. First, we need to layer on another key idea, which is that we want to think of talent not as something that we pluck, but rather, as something that we cultivate. In other words, we want to move away from the idea that we're simply trying to identify gifted children in the classroom and pluck them out like a flower. Instead, we want to think about how we might cultivate a classroom environment and create learning experiences in which talent is able to grow and make itself evident.

4. One way we've already practice cultivating talent was in module 7, the series on read-alouds. In that module, we framed a read-aloud as an opportunity to develop talent. Specifically, we introduced traits, attributes, and behaviors that can signal potential, and are therefore associated with talent development. We learned that a read-aloud is an ideal time to plan instruction that appeals to or showcases those traits, and that by teaching up to those traits in students, you can not only allow those traits to express themselves, but you can also elevate the instruction for the class as a whole.

5. So, we'll be thinking about two big ideas relative to talent potential. First, literacy can mask that potential. And second, talent isn't plucked – it's cultivated. Let's apply those ideas now, separating literacy skills from talent potential and being a kid-watcher and a cultivator.

6. Let's meet some fictional kids who resemble students we've all had in our classrooms. Our fictional data indicate that these four students – Alex, Ellie, Jess, and Beto – exhibit behaviors that suggests talent potential according to either their tests or to the TABs Observation Checklist. We'd also like you to meet their new teacher, Ms. Moran (also entirely fictional). We've asked her for three informal observations about each of these students.

7. Before we share Ms. Moran's observations, pause the module for moment and create a five-column notetaking device. Put each child's name at the top of a column; Alex, Ellie, Jess, and

Beto. As you hear about each of these students, you'll be listening for three things: the student's literacy, the student's behaviors, and the teacher's beliefs.

8. Here are Ms. Moran's notes on Alex. One: He can get very excited when he knows an answer and jumps in before I've even finished asking the question. And even if his first response is wrong, he's a really good guesser. Two: Alex is brimming with information, which is sometimes helpful, sometimes distracting. And he will fixate on a topic that interests him for weeks, even if it doesn't interest the rest of the class. Three. For a child who chats as much as he does and uses such complicated words, he gets almost nothing on the page when I ask him to write. He doesn't even know basic stuff.

9. Here are Ms. Moran's notes on Ellie. One: Ellie knows her own mind, and questions me constantly. She tends to say "I already know that" when we're learning something new, even if it turns out that she doesn't. Two: She can really crack up her classmates and often makes that her goal. She likes to get us off track. Three: Ellie only wants to read graphic novels. She brings her brother's from home. I'm not sure that she's actually even reading the words. She should be reading chapter books by now.

10. Here are Ms. Moran's notes on Jess. One: Jess is a bit of a mess. Hair always tangled, unmatched socks – and she never follows the directions I give. I'm not sure if she's lazy or daydreaming or what. Two: Poor girl. She struggles with the other kids, especially other girls. She doesn't seem to get the jokes or the way they interact. She's actually a bit of a loner. Three: The things she says come out of left field – just wild ideas. I often have to ask her to explain her drawings to me. She never labels them even when I asked repeatedly

11. Here are Ms. Moran's notes on Beto. One: Beto is such a sweet kid, always smiling and nodding when he's addressed. He seems to understand what he's told, but he doesn't speak much. Two: He creates incredibly detailed drawings and takes a lot of time on them. He takes his time with everything, actually – cutting, picking a book, responding to a question. He's a little slow moving. Three: Beto's reading is odd. He reads sentences pretty fluently, yet often can't answer simple questions about what he's read.

12. Ms. Moran's notes provide a lot for us to think about. She notices a great deal about her students, which is good, but she may need help in reframing some of her thinking. A teacher who foregrounds the negative aspects of the behavior may have a harder time cultivating talent. With a plucking mentality, you're looking for a particular kind of child, one who arrives to class ready to be plucked, and you tend to pass over students who don't look that way already. So, what might be perceived as a negative or troubling behavior may make a child look "not ready." But as we know, sometimes those concerning behaviors are actually indicators of talent potential.

13. Similarly, a literacy behavior might make a child look not ready to pluck. Another way to think about this is in terms of a teacher's mindset. Teachers with a growth mindset don't see talent or intelligence as fixed entities, but rather, as things that are malleable, things to be cultivated. Teachers with a growth mindset believe that they have a responsibility to actively develop students' talent. They believe themselves not to be just kid-watchers, but to also be kid-cultivators.

14. So, with this in mind, let's analyze the data you collected on your chart. As you look at the literacy row at the top, ask yourself how that literacy behavior might obscure the student's talent potential? Pause the module and jot down your thoughts for each student. Now look across the row at student behaviors, and based on what we've been taught to observe in the TABs

Observation Checklist, what behavior, challenging though it may seem, may actually indicate potential? Again, pause the module and note the trait, attribute, or behavior.

15. Finally, let's analyze what you inferred about the teacher's beliefs. Ask yourself: How might Ms. Moran reframe her beliefs from things to be concerned about to things that are more positive? In the next part of the video, we'll propose ways in which Ms. Moran can reframe her thinking to move from a plucking to a cultivating mindset.

16. Ms. Moran should reframe her first observation about Alex to recognize his enthusiasm as a symptom of his strong insight. This exceptional ability to draw inferences makes him look like a "good guesser." Ms. Moran could provide an idea notebook for Alex to draw a picture to remind him of his ideas for later.

17. Her second observation about Alex could be reframed to acknowledge his capacity to learn deeply about a lot of topics. She could capitalize on the motivational power of these intense interests, which can be an indicator of talent potential. Ms. Moran could use his interests to hook him into a topic or to allow him to explore the connections in a center.

18. Finally, Ms. Moran's third observation about Alex could be reframed to understand that although Alex integrates "big" words from his interests, he may simply lack academic language. That can and should be explicitly taught. Ms. Moran should teach explicit academic writing and provide visual writing supports.

19. Regarding Ellie, Ms. Moran's first observation should be reframed to recognize that Ellie is probably afraid to look wrong, which will lead to non-risk-taking in her thinking. Ms. Moran should try to engender in her a growth mindset (and in all of her students) by encouraging "being wrong" as part of the learning process.

20. Ms. Moran's second observation about Ellie can be reframed to see that Ellie's advanced sense of humor means that she's able to synthesize ideas quickly and transform them into something funny. This ability could be an indicator of potential!

21. The third observation that Ms. Moran makes about Ellie could be reframed to understand that Ellie may be sticking with what she knows, and that she also might be drawn to the abstraction and complexity in graphic novels. Ms. Moran should make connections to the same ideas in class, and possibly ask Ellie to find cool words to share.

22. Ms. Moran's first observation about Jess should be reframed to acknowledge that several issues may be interacting that make Jess seem unfocused or unattuned to what the teacher wants. Ms. Moran could help Jess develop organizational systems – checklists, check-in points, etc. – and stay with her. These behaviors are probably not intentional, nor are they an indication that Jess "can't" do the work.

23. Reframing the second observation involves being aware that Jess may have difficulty reading social cues, which causes her to feel isolated. She is perhaps not a loner by choice. Ms. Moran should intentionally pair her with a more socially adept student, and should provide interaction prompts and roles when in small groups.

24. The third observation can be reframed by developing an awareness that Jess is exhibiting an unusual imagination, generating at times rather "bizarre" ideas. This is something to cultivate!

25. With Beto, Ms. Moran must reframe her first observation to recognize that he may be in a receptive state of language development and not yet confidence in his ability to produce language. She could scaffold questions to help him (e.g. "Point to the object" or "yes/no" questions).

26. Ms. Moran's second observation should be reframed to reflect an understanding that "slow moving" does not mean that no thinking is happening. Some students are quick and external,

while other process more deliberately and perhaps, more deeply and differently. Also, Beto is thinking in two languages. Ms. Moran should be sure to provide wait time.

27. Finally, the third observation about Beto should take into account that in English, Beto's receptive language skills (reading or listening) developed before his productive skills (speaking and writing). He may also lack vocabulary and can therefore read a word yet not know its meaning. Ms. Moran should pre-teach and front-load content vocabulary that he – and many other students – might not yet have.

28. So as we look ahead to part 3 of Module 11, bear in mind the two big ideas we've unpacked so far: Underdeveloped literacy can mask talent potential. And talent isn't plucked. It's cultivated.

29. Finally, take a moment to reflect on what you've learned in this module about cultivating talent development. Consider for a moment which of the students' descriptions – Alex, Ellie, Jess, or Beto – most resonated with you. Why did that student's story resonate?

Module 11.3 Script

1. Welcome to part 3 of Module 11, which continues to examine the cultivation of talent potential.

2. In the first two parts of this module, our focus was on how we can reframe our beliefs about students and recognize our agency as teachers in being cultivators of talent.

3. In this final segment, we'll think about talent a bit more broadly. As we zoom our lens out a bit further, we encounter our last big idea. Talent develops in a system, and as teachers, we need to take an active role in that system.

4. Students' talent development is positively impacted by a number of factors in the system: access to high-quality curriculum, growth-focused beliefs and expectations, flexible gifted identification processes, a trusting partnership that's been cultivated between the family and the school, and instructional practices that have been maximized to propel students forward from where they are.

5. We've already addressed some of these system levers in previous modules. We've looked at how growth-focused beliefs, the idea that intelligence or talent is malleable not fixed, will go a long way in reframing expectations.

6. We've talked about providing access to high-quality curriculum in terms of teaching up to all children using rich literature that allows for open-ended questions and discussion illuminated by big ideas. We talked about being aware that talent cannot manifest when not given an opportunity, and that a challenging curriculum may provide a platform for talent to be revealed.

7. We've talked about maximizing instructional practices throughout all the modules, emphasizing that students come to us with different levels of preparedness and in different places on various developmental continuums, especially literacy. And so, we need to provide children with the scaffolds they need to propel them forward from wherever they come to us and to not let literacy become an impediment to unlocking the depth, complexity, and creative thinking that our students may be capable of.

8. Let's now try to apply that idea by considering how to be an active member in the system. We'll analyze our students in two classroom scenarios: whole group and small group instruction. Observe how the teacher interacts with the students, and what and how she's teaching. You may want to take notes as we explore these scenarios.

9. At the end of each scenario, we will check in with you and ask how a cultivating teacher might have carried herself. Ask yourself: Is she actively cultivating talent in all students? How she might reframe her beliefs and alter instruction?

10. Ms. Moran has arranged students in rows on the floor. She sits on the chair in front of them. The children have white boards on their laps. Ellie sits cross-legged at the teacher's feet. Alex sits in his assigned chair at the back of the rows, high above the group. Jess sits to the side of the group, slightly out of her row. Beto blends somewhere in the middle. During calendar time, Ms. Moran tries to actively include Beto by asking him the Spanish word for Wednesday. He smiles and sits silentlu for what Ms. Moran feels to be an uncomfortably long time. Alex finally can't take it and shouts out "Miercoles" and then each day of the week twice.

11. Ms. Moran explains that they will be exploring color today. She wants the children to think of their favorite color, but not say it out loud, and instead, keep it in their heads. Ellie's and Alex's hands immediately shoot up. Ms. Moran ignores them. Alex starts drumming on his white board with his marker. Ellie shouts out "teal!" Ms. Moran admonishes Ellie to not call out, and then says she'd like the students to only use the color names they've learned in art – primary and secondary colors – and to refer to the color wheel on the wall to make their choice. Ellie scowls.

12. Ms. Moran asks the students to draw a picture of something that is their favorite color. They all get to work. Jess starts writing the letter "S" so big that it takes up her whole white board. She makes the "S" fat and hollow and starts drawing patterns inside of it. When Ms. Moran tells another student that he doesn't have to write the word, Jess looks up and starts to erase her whole board with the side of her hand. Once she smudges her board clean – which takes a while – she stares at it and doesn't draw for the rest of the time.

13. Ellie has been drawing a cartoonish bird with tall tail feathers. Underneath her picture, she has written "peekok blue" and "teal." Alex is busy drawing the same characters that he draws on everything. He announces "Mine are a mix of colors." Beto looks around at what his classmates are drawing. He seems hesitant about what to do. Ms. Moran tells him to start drawing and points at the color wheel. He looks at his black pen, confused. He sees that Ellie has drawn a bird and starts drawing a dog, which is his favorite animal.

14. Take a moment to reflect on this classroom example. How might Ms. Moran approach this scenario to help cultivate students' talents? Pause the module as you reflect on the question. When you're done, restart the module to take a look at the next scenario.

15. The literacy block includes centers with different activities that use colors and color names. Jess, Alex, Ellie, and Beto sit together, so they're automatically grouped for the center. Their activity uses an assortment of colored strips from the paint store and a big box of alphabet squares. Ms. Moran tells the students to first look at the instruction card and then decide if they want to do the task as a team or as a competition. Jess mouths "team," but Alex and Ellie shout "competition!"

16. Jess picks up the instruction card to examine it. Alex says "I don't need that," and blurts out "found one." "Found one already, too," Ellie chimes in, even though she's still sifting through the paint strips. Ms. Moran announces "This is literacy time. I should not be hearing loud voices." Beto was looking out the window. Jess puts down the instruction card and matches an "R" to a swatch with threads on it, then shows it to Beto. Beto lights up, understanding Jess. He starts shuffling through the colors. He picks out an "A" to match with a stack of blue color swatches and yellow color swatches. He also matches a stack of gray swatches with the letter "G."

17. Jess holds up a swatch that has shades of peach and says to Ellie, "It's flesh." "That's not even a color," Ellie retorts. Jess, not hearing her, searches for one with shades of brown and says, "So is this, flesh." She finds an "F" and matches it to both swatches. She then starts combining color swatches into mini rainbows and starts pulling out "R," "G," "B," "I," and "V." Alex rifles through the pile, scattering colors and letters, and says "I'm killing this." Ellie says to him, "Take your time. If you would take your time, you would find the words much faster." Alex ignores her and tells the teacher "I think I'm the winner. I found so many."

18. Eventually, Alex gets more and shouts "We're done! Now what?" Ms. Moran says "Of course you are." She inwardly wishes she could send him down the hall to the gifted pull-out but believes his behavior makes him a bad fit. There are still five more minutes in the rotation, so she asks the students if they've counted the stacks. Alex says "Yeah, I have 20," and wanders over to another table. The other students slowly count their stacks. Jess has three, Ellie has 15, Beto has two. As the literacy block comes to an end, Ms. Moran tells the whole class that they were very quiet and engaged and says "Great job!" She then tells the students to clean up their centers. Ellie has already been separating the letter and color cards. Beto joins her.

19. Take a moment to reflect on this small-group example. How might Ms. Moran approach this scenario to help cultivate students' talents? Pause the video as you reflect on the question. When you're done, restart the video.

20. Now that you've reflected on these scenarios, let's take some time to explore what a cultivating teacher would do in these situations. Pause the module to read through the things that Ms. Moran could have done for all of her students. Taking these steps would help Ms. Moran ensure that she is working towards cultivating the potential of all learners. After you've read through what she could have done for all of the learners in her classroom, review the four subsequent slides to see what she could have done for Alex, Ellie, Jess, and Beto individually.

21. Take a moment to review what Ms. Moran could have done to cultivate Alex's talent potential. Pause the module to review her possible actions, then restart it to move on to the next student.

22. Now read through what Ms. Moran could have done to develop Ellie's talent. Pause the module to review her possible actions, then restart it to move on to the next student.

23. Read over this list of actions that Ms. Moran could have taken to help build Jess's talent. Pause the module to review her possible actions, then restart it to move on to the next student.

24. Finally, review some potential steps that Ms. Moran could have taken to facilitate talent cultivation for Beto. When you're done reviewing this list, restart the video in order to review some key elements of this module.

25. Now that you've had a time to reflect on your observations about the students and to compare those observations with the ones that we made, ask yourself: In what ways did your observations about each student align with ours? In what ways were they different?

26. While we focused on the parts of the system that you can control in your classroom, bear in mind that you can also impact other parts of the total system. In schools, you have the opportunity to put kids in a gifted program every day. It's called your classroom. You can engage in flexible identification processes by making a daily choice to actively cultivate talent and to make students ready for gifted identification when the time comes around. You're operating flexibly about identification when you reframe behaviors that might be concerning and consider them through a talent lens. In addition, we know that trusting family-school partnerships are essential to student success. As a teacher, you can play a valuable role in fostering these partnerships.

Appendix M

Codebook

Note: To operationalize what teachers made note of I will be using data including teachers' data collection notes and TABs forms. Data consulted for what teachers "talk about" will include observations and interview.

Emerging Codes

Code Name	Definition	Example
Behavior	when teachers describe student behavior; related to classroom management. often when they describe student behavior that is disruptive to the classroom or curriculum	. e.g. talking too much, being "squirrely" or "wild" in words of the teachers
Resources and Instructional Materials	when teachers refer to resources and instructional materials to talk about how the resource(s)/material(s) aligned with curriculum, engaged students, motivated students, allowed students to show a talent or creativity, etc.	e.g. Barb said the read aloud books could have been written specifically for the camp and were aligned. E.g. stamps, painting materials, journals, etc.

A Priori Codes

Code Name	Definition	Example
Teacher Noticing Codes (van Es & Sherin, 2002)		
Observe	When teachers notice, make note of, or talk about a notable instructional event, student output (behavior, action, or work product) or	I noticed that Camila used a lot of detail when creating her art during Imagination Station. It looks like a stained glass window.
Interpret	When teachers make note of or talk about a notable instructional even or student output and relate it to a broader principle of teaching and learning (e.g. conceptions of potential, gifts, or talents)	Camila's artwork was very creative and detailed, which makes me think she has a lot of artistic potential. Teacher writes down note to put in TABs Creativity category. Or teacher circles behaviors from TABs Creativity category on the form and writes "artwork."
TABs Categories Codes	Student displays the following traits, attributes, or behaviors…according to coder or according to teacher.	

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(Frasier et al., 1995)	Note—student does not have to meet all criteria described in category to code for it, only at least one.	
Communication Skills	Highly expressive with words, numbers and symbols. Transmission and reception of signals or meanings through a system of symbols, codes, gestures, language and numbers. Unusual ability to communicate (verbally, non-verbally, physically, artistically, symbolically); uses particularly apt examples, illustrations or elaborations	
Humor	Conveys and picks up on humor well. Ability to synthesize key ideas or problems in complex situations in a humorous way; exceptional sense of timing in words and gestures. Keen sense of humor that may be gentle or hostile; or sarcastic. large accumulation of information about emotions; capacity for seeing unusual relationships; unusual emotional depth; openness to experience; sensory awareness	
Imaginative Creativity	Produces many or very creative ideas; highly original. Process of forming mental images of objects, qualities. Situations, or relationships which aren't immediately apparent to the sense; problem solving through non-traditional patterns of thinking. Shows exceptional ingenuity in using everyday materials; is keenly observant; has wild, seemingly silly ideas; fluent and flexible producer of ideas; Elaborate; highly curious	
Inquiry	Questions, experiments, explores. Method of process of seeking knowledge, understanding or information. Asks unusual questions for age; plays around with ideas; extensive exploratory behaviors directed toward eliciting information about materials, devices or situations	
Insight	Quickly grasps new concepts, makes connections, and/or senses deeper meanings. Exceptional ability to draw inferences; appears to be a good guesser; is keenly observant; heightened capacity for seeing unusual and diverse relationships, integration of ideas and disciplines	
Interests	Intense interests (something unusual). Activities, avocations, objects, etc., that have special worth or significance and are given special attention. Unusual or advanced interests in a topic or activity; self-starter; pursues an activity unceasingly; beyond the group	Student is extremely interested in sea creatures. Teacher notices student chooses to read about sea creatures at snack break.
Memory	Large storehouse of information (on school or non-school topics). Exceptional ability to retain and retrieve information. Already knows; 1-2 repetitions for mastery; has a wealth of information about school or	Student recalls information from previous read-aloud and brings it up the next week

	non-school topics; pays attention to details; manipulates information	
Motivation	Evidence of desire to learn. Forces that initiate, direct and sustain individual or group behavior in order to satisfy a need or attain a goal Persistent in pursing/completing self-elected tasks (may be culturally influenced evident in school or non-school activities); enthusiastic learner, has aspirations to be somebody, do something	
Problem-Solving	Effective (often inventive) strategies for recognizing and solving problems. Process of determining a correct sequence of alternatives leading to a desired goal or to successful completion or performance of a task. Unusual ability to devise or adopt a systematic strategy for solving problems and to change the strategy if it's not working; creates new designs; inventor	
Reasoning	Logical approaches to figuring out solutions. Highly conscious, directed, controlled, active, intentional, forward-looking and goal-oriented thoughtful. Ability to make generalizations and use metaphors and analogies; can think things through in a logical manner; critical thinker; ability to think things through and come up with a plausible answer.	

Appendix N

Sample Analytic Memo

Friday, 5.14.21

Meeting with my critical peers Jane and Alicen today helped me to check assumptions about teachers, such that if they were not using the language of the TABs that they were not thinking in those terms. Alicen reminded me they might be thinking about that while they job down the sticky notes, I just don't know. Just because they don't use the language of the TABs in their writing or when they were speaking in the exit interview, does not mean they were not thinking or reasoning about it in their head that way and making connections between the behaviors they wrote down and gifts, talents, or potential. Reflexivity, checking biases, testing assumptions with critical peers, acknowledging my positionality as a gifted education expert trying to understand how primary grade teacher and gifted resource teacher understands the process of using the TABs form, observes students, perceives students. I thought about having a finding that there was a disconnect between the sticky notes and interpreting as gifted, but Jane, Alicen, and I helped me to decide that we do not have enough or the necessary data for that.

I also thought about how I wished there could be a finding or recommendation for better understanding the ideal conditions for making observations, such as small class size, co-teaching, leading an activity without a heavy instructional lift, and we realized that we did not ask the teachers any questions about that. We would need an interview questions, like, what do you think or what would help you to observe students?? And we did not have that question, then we also realized it was not aligned to my research questions.

This was a great session with critical peers. They helped me sort out what I was saying that could be a finding vs. what is more of an interpretation. They also provided ideas for how to structure findings statements and the findings section as a whole.

Intersections or Double-codes: Jane provided support with better understanding MaxQDA, so that now I can pull overlapping codes ("intersection" on the software). For example, I wanted to see if what I coded on the sticky notes as far as TABs categories was coded by teachers on the actual TABs forms at the end of camp. Next, I will do this using tools in MaxQDA.

We also talked about use of frequency counts and how to do that with subcodes.

Behavior and developmental continuum: Another point about teachers when they were noticing student behaviors. When they see students doing what they seem to perceive as disruptive behavior, are they taking into account what is developmentally appropriate for students who are 5-8 yrs old? This made me think about possible recommendations. Do teachers need a refresher on how primary grade students act in relation to??

- Cognitively

- Socially and emotionally

- Self-regulation

I added these ideas to my notes for recommendations chapter. I remembered something I learned about how recently developmental stages are not the go-to for understanding child development, but more like a continuum? I have to look that article up, because I learned about it when working on the social emotional class with Dr. Amspaugh.

Sample Theme Chart

Behavior Code Theme Chart

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Theme: 1-2 sentence

Teachers observed several different kinds of behaviors. The types of behaviors teachers noticed were…
1) TABs-aligned
2) Not TABs-aligned, seemed to be related to behavior and classroom management.

What behaviors did they miss?
3) Missed Opportunities to observe and recognize/interpret TABs-aligned behavior as evidence of potential, gifts, and talents.

How I am defining "missed?"
Missed is defined partly by how I delineated or sorted students' actions, responses, work products as represented during classroom observations and teacher-collected data artifacts (sticky notes) about students into TABs categories.
Then I compared that to what teachers filled out on the TABs forms.

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Description/Summary of interpretation (Patterns)

Patterns
- Teachers observed student behaviors that were not on the TABs forms, including behavior that seemed to be perceived by teachers as disruptive such as talking and rolling around on the carpet, etc.
- Often boys were mentioned, such as Adam, Jaime, and Lucas. (Lucas not getting the turtle award bc of his behavior). But this was not always the case.

Interpretation:
- When teachers were talking about talent development, behavior was a barrier to referral of students for gifted students. Sometimes when teachers were asked about if they would refer students for gifted services, students were referred to as "immature"
- In their attempt to observe behaviors (the "B" in TABs), teachers may have missed opportunities to observe other behaviors that were not aligned to the TABs.

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Notes
What are my data sources? Why is this notable enough to be a finding?

- Teachers referred to student behavior in their data collection sticky notes and also wrote onto the actual TABs form.
- Teachers referred to student behavior during the exit interview when asked
- Also, this is a finding because Adam for example was mentioned as though he was going to be referred to gifted services, but then was not.

Describe the teachers' standards for turtle-rrfic behavior, and how students were assessed in relation to that.

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Evidence Source/title	Excerpt(s) from Data	Explanation for Selection
Evidence 1: ADAM (Poplar Teacher Collected Data_Typed_Sticky _Notes, Pos. 16)	E1 excerpt Adam Day 2: busy talking but answers questions Rolling around Leighann: Let's see, Adam. Clark: If we could get a straight answer out of Adam. Branson: And it's like sometimes – he's really hit or miss. Like sometimes, he's on it, and then others – like how did he do with the painting today, with you? Clark: Aside from being a huge mess, he was very engaged in the painting. Branson: And I think that's what happens. He feels like – I know he's kindergarten, or going into first – but he seems like a very young – Clark: Young. Leighann: Socially he's young? Branson: Yes. So, it's like he [Adam] does the best he can and then once he's done, he's done. Clark: And that might be at 9:00 in the morning. Branson: Yeah, exactly. Leighann: So, his [Adam's] focus varies it seems like. Branson: It does. Clark: Yeah. And he's one of the ones that can't calm himself after we've done the dance activity or – he just, yeah. Branson: Yeah. I remember we were talking about a book had kaleidoscope in it and he [Adam] said, "Oh, that's like the name of our camp."	On the TABs form, teachers noted that Adam exhibited Imaginative Creativity and Interests, such as "transportatio n" and "dinosaurs." Adam's behavior was often noted by teachers, other students, and even the PK observers. Here, when asked about Adam, they noticed that at times, he makes connections — kaleidoscope example, but also that he is "he seems like a very young" When they mentioned that he was "very engaged in painting," Ms. Clark prefaced this was "Aside from being a huge mess." So when referring to

	And so it's – I don't know, it's... I'm sure he's got more in him, but he just can't regulate at all. (InterviewPoplar_Branson_Clark_2019.7.22_LNP_int erview, Pos. 314-327) Adam is saying "ribbit" and trying to hop around. The kids get a little restless on the storytime rug. KB asks the kids to look for patterns on the slides. –Leighann's note from Day 4, Patterns in Daily Life and art ppt slide activity, 7.18.21	Adam's potential, gifts, or talents, they also referred to work habits, such as neatness, and self-regulation. Ms. Branson stated this directly, when she described a connection or inference made by Adam during a read aloud: "I remember we were talking about a book had kaleidoscope in it and he [Adam] said, "Oh, that's like the name of our camp." And so it's – I don't know, it's... I'm sure he's got more in him, but he just can't regulate at all."
Evidence 2: LUCAS Day 4_Obs_Poplar_ Branson_Clark_2019.7.18_L NP, Pos. 439	E2 excerpt Clark said she wasn't sure who to choose for the second boy, because they wanted to choose two boys and two girls. And then she said to me after class that, "I didn't know who to choose. I was going to choose Lucas, and he was on task for most days, but today he was like rolling around on the floor…Oh, Lucas wasn't behaving as well today. So, then I couldn't choose him."	E2 Explanation for choosing: Lucas was not selected for the turtle award because of his behavior on one day, which was the

		day the turtle award was given. Here teachers are talking after Day 4 of camp.
Evidence 3 ALEXANDRA (TABs forms by student, Pos. 19-20)	E3 excerpt **Alexandra** Communication Skills: this was circled but then at the bottom the teachers wrote "spent time talking and copying others"	Teachers wrote this on the actual TABs form even though it did not really fit with any category. This adds to other data about Alexandra. It was also weird because Alexandra was often quiet. However there was one day she started talking a lot but she was answering questions during a
Evidence 4 FLORA Document: TABs forms by student	Interests: intense interests, something unusual. "fixated on snack " Memory: "not paying attention but will supply answer" Day 4 of the summer intersession was the last day of Week 1. During Closing Circle, teachers selected students to receive the "turtle award." The teachers seem to prioritize following rules, not interrupting, and listening to the teacher. Below is an excerpt from the observation notes (7.19.19):	Teachers wrote in about Flora's behavior on the actual TABs form itself.

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| | Ms. Branson: We've been watching all week to see who has been following the rules, and respectful and turtle ready.

Ms. Clark: Following the rules and not interrupting. Some of you had done a really good job at that.

Ms. Branson: Not everybody. Next week, we will have more turtles of the week. Maybe you can get one next week if you don't get one this week.

KB: I think Aaliyah would be a turtle of the week. You've done a fantastic job, always listening.

Flora: What about me, I was doing good?

KB: This is about people, every time we look at them, they are doing good. (Day 4_Obs_Poplar_Branson_Clark_2019.7.18_LNP, Pos. 393-395) | |
| Evidence 5
JAIME
1) Day 4 observation
Day 4_Obs_Poplar_Branson_Clark_
2019.7.18_LNP

3) Exit Interview: Poplar_Branson _Clark_
2019.7.22_LNP_ interview, Pos. 396-405)

Jaime received the turtle award | No TABs
One sticky note?

KB: We can see patterns everywhere where they repeat. It can be a color or a shape that repeats. You noticed patterns at home, like beds, and carpets, and Jaime noticed a carpet.
Tara is running the slides. She turns to the slide "Patterns on Clothing."

KB: Jaime, what do you notice?

Jaime notices the image with the checked pattern on a pair of shoes. He stands up and points to the picture.
KB: When I look at this, it kind of looks like stairs.

She points out all of the plates in the image have different patterns on them.

Jaime: Oh! He raises his hand.

KB: What did you see?

Jaime: This one, I see lines, I see red and orange and blue. He points to the Mexican blanket.

Later on Day 4 | The first excerpt shows that Jaime is making some interesting comments and connections indicative of TABs insight category. At the end, teachers said they did not have enough information to fill out his TABs form.

At the end of Day 4, when Jaime the turtle award for good behavior, this seemed to be partly |

Turtle awards
So far, they have chosen Oliver, and Jaime who has only been here one day.

Next, BC says that Jaime has done a good job and he can be a turtle of the week

[It seems like they might be choosing some of the kids right then, but for others, they have already thought about them. LNP]

After class on Day 4:
BC tells me that Jaime is not usually well behaved during the school year and that he is often an instigator. He behaved well today and he was surprised by the things he was saying.
KB refers to Jaime: He worked so hard on the tessellation, he did not give up at all.

Exit Interview: in response to gifted referral question
And then, Jaime, he was only here the one day.

Branson: Yeah, why was that? For one day, but he was –

Leighann: He got his turtle award.

Branson: Yeah, but I mean, he was on it.

Leighann: I think you wrote a lot of notes about him that day.

Clark: He [Jaime] really impressed me because when I was in his classroom, he was kinda like the instigator, and he would like poke the other kids to get them in trouble kinda stuff. I didn't see a bit of that in here. He was really participating and answering questions.

Leighann: And like focused on the content and not mischief.

Branson: Oh my gosh. And that tessellation puzzle? He just sat there forever and just moving it and just really focused.

Clark: Yeah, I was disappointed that he didn't show up today.

because his good behavior during summer camp was in contrast to his behavior during the school year. This shows that teachers are taking behavior into account when assessing students.

They focused on his good behavior, noted his persistence and concentration on the tessellation puzzle.

On Day 4, after class, teachers stated similar things about Jaime during an observation after he won the turtle award on 7.18. For the exit interview, they said almost the exact same thing they said after class—esp Clark.

	Branson: I know. Later in interview: they said they wanted to see more of him: Clark: And really Jaime. I so wanna see more of him you know, but – Branson: I think those are the ones.	Was there a missed opportunity to identify TABs categories for Jaime? However, I also tagged him as having thoughtful responses to the patterns in art activity. His responses here did not show up on TABs or sticky notes. Motivation and Insight were two categories teachers could have selected based on what they said about him. *note: Jaime is an English learner
Code Definition: when teachers describe student behavior; related to classroom management. often when they describe student behavior that is disruptive to the classroom or curriculum		
Literature: TOPS article, when they researched the barriers to identification, and behavior came up, especially with boys. Leading to a recommendation about including non-teacher pleasing behaviors as part of their observational tool.		

Appendix P

Open-Ended, Creative Learning Experiences from the Color Vision Curriculum

Nature Walk in a Box or Nature Walk Poem

Imagination & Application Station:	Materials
	Option 1: white paper or Observation Journal, markers, pencil, colored pencils. **Option 2:** glue, extra boxes and nature materials, etc.
Purpose: The purpose of this station is to create displays of nature and/or practice observing and describing nature.	

Activity Overview: Students will have a choice of writing and illustrating a nature poem based on their nature walk and sharing it with a partner or group by reciting it or designing their own version of nature walk in a box.
 	
Option 1: Poem: The poem does not have to rhyme, but it can, and it should use all five senses. Give them 15 minutes to write and illustrate the poem (optional) and then they could perform their poems for the other students at the station for 5 minutes. Students can use the optional sentence starters to write their poem. Use white paper instead of the Observation Journal so students can ask students to sign their poem and artwork to hang in the classroom. When responding to the poem, you might point out how the students was observing like a scientist or artist in their poem.
 	
Option 2: Nature Walk in a Box: Hand out paper and pencils to students who are interested in this option. Ask them to create a sketch and a title for their Nature Walk in a box, describe what it looks like, and list materials. Then read over their work and distribute the boxes and any other materials they need to create their Nature Walk in a Box.
 	
Present options to students
    Today you have two choices at this station. You can write or speak and/or illustrate a nature walk poem using sentence starters. Or you can create your own version of Nature Walk in a Box.
 	
    Option 1: *Nature Walk Poem: You can write about something you observed in nature today and turn it into a poem with an optional illustration. For example, here is a poem about a barn that you might see while driving to school.*
 	
    I see red peeling paint on a barn,
    I can feel the rough surface of the splintery wood	

I hear yellow corn husks, waving and tall
I hear the cows mooing in the field,
I can smell burning leaves and I know that it is fall.

I rhymed "tall" and "fall," but you do not have to rhyme in a poem. You could use these optional sentence starters.

I see..
I smell…
I feel…
I taste…
I touch…

Say your poem out loud or ask for help writing it down. If you would like, we can display your nature poem and illustration somewhere around the room. You can also read it to the group at the end of station time if you'd like to.

Option 2: Nature Walk in a Box
Draw a sketch or write or think of a list of what will go into your Nature Walk in a Box, based on these supplies available. Then you will share with me and I will give you the materials. You can present your Nature Walk in a box to your classmates at the end of this station if we have time.

Closure
Today you had more than one option about what to do. You practiced using your five senses, or at least some of them, to observe.

Animal Designer

Imagination & Application Station

Purpose: The purpose is for students to apply what they've learned about patterns so far in a fun and creative way by designing their own patterned animal.

This station is about designing animals. Students will apply what they learned about patterns so far to create a unique pattern and design a wacky animal. First, hand out the Animal Design worksheet and explain the directions. Then, hand out colored pencils or markers. Gather the print outs of different animal silhouettes that students will use for the Animal Designer task today.

Welcome to the Animal Designer station! Today you are going to choose an animal. They are missing their colors, stripes, and spots!

You get to design a pattern and choose the animal that will wear your design. We have many blank animal drawings to choose from or you can draw your own animal.

Remind Students What a Pattern Is
The only rule for this assignment is to create true pattern. Remember, a pattern is a sequence with elements that repeats in a particular, predictable order. Elements might be colors or certain shapes (spots, stripes).

Directions for Animal Design Page
After the teacher checks each students' pattern plan to ensure that it has elements of a pattern (repetition in a predictable way), then students can choose an animal. Designing the pattern first ensures the focus is on creating a pattern, not only coloring the animals. Students can choose from different silhouettes of animals. Check on the design of a pattern for the animal before having students color the animal.

Let's take a look at the Animal Designer Pattern Design page. Maybe I want to create a flamingo that is decorated with a pink dot, yellow line, pink dot, yellow line. That is a very simple pattern.

Create a pattern using the Animal Designer Pattern Design Page.
The Animal Designer Patter Design Page looks like this:

Explain to me why it is a pattern.

You can have more than one

pattern, too, on different sections of

your wacky animal. Maybe half

would be a pattern of different-

colored stripes, and the other half

would be a pattern of triangles,

squares, and circles in different

*colors.*

Explain Original Pattern:
Example of Designed Animal:
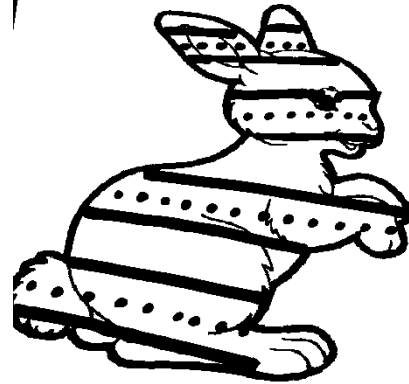
| Imagination & Application Station	**Imagination & Application Station:**
	I See a Pattern Here book
	paper and colored paper
	markers, pencils, colored pencils
	scissors
	stamps
	stamp pad
	glue
	colored beads

Purpose: At this station today, students create art by experimenting with different kinds of patterns and apply knowledge of some or all of the patterns we've learned about so far.

Activity Prep: Create a model symmetry pattern and model repeating pattern that could be like the given images. Model for students several different ways to create a pattern. You can use images from this text to model. Below, the first pattern is a symmetry pattern created using a folded piece of paper. Fold a paper in half and draw a design against the fold. This could be a design that has a line of symmetry down the middle.
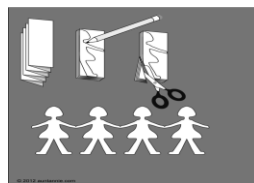
Today, the Imagination & Application Station is about creating a pattern using different artistic mediums. We will learn about different kinds of patterns. Then you can choose which one you would like to apply. I will show you different ways you can create your own pattern. We can draw dots or use a stamper to create a pattern on the paper, like this.
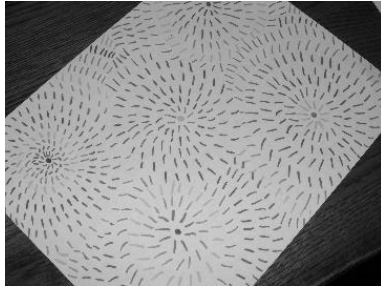
Another way you could create a pattern is using stamps and a stamp pad. Now it is your time to create your own patterns. You have paper, pencils, markers, colored pencils, stamps and ink, and scissors to help you. I will be walking around to help you.

Allow the children to use the book from Inspiration Station, such as *I See a Pattern Here,* to help generate ideas for patterns to create. As children are working, use open-ended questions to discuss their work. You might ask something like:

- *What are the repeating elements of your pattern?*
- *How many times does your pattern repeat?*
- *Did you use colors or shapes or other things as elements in your pattern?*
- *How might you use another element in your pattern?*

Closure

Now, let's share our patterns with each other and identify the type of pattern each of our friends used.

Optional Extension

Students can start a pattern and then trade with a partner. Then their partner must figure out what the pattern is and continue it. An additional extension would be for the partner to figure out the pattern, make it more complex by adding additional parts, and then return it to their partner to figure out and continue.