Identifying and Serving Gifted and Talented Students: Are Identification and Services Connected?[1]

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Abstract

The importance of alignment between identification processes and program design is widely noted in gifted and talented education literature. The purpose of this study was to examine the extent to which district identification practices matched intervention services (e.g., curricular, instructional, and service delivery strategies). We analyzed district program plans from two states where the district plans were publically available on state gifted and talented department websites. Our research team completed a document analysis of 293 plans using a coding scheme matrix with 133 items. Of the 293 districts, 76.5% (*n*=224) indicated they identified students specifically in mathematics and 76.8% (*n*=225) indicated they identified students specifically in reading/English language arts. We found an alignment between identification and services. On average, districts reported using three of the seven common instructional strategies. Overall, districts that identified students in mathematics and reading/English language arts, were four times more likely to use a combination of these strategies as districts that did not specifically identify students in these content areas.

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Identifying and Serving Gifted and Talented Students: Are Identification and Services Connected?[2]

Designing and implementing programs for gifted and talented students requires careful thought and planning about four key programming elements: (a) Identification & Placement, (b) Intervention, (c) Infrastructure & Resources, and (d) Program & Student Outcomes. Within each of these elements, basic focus questions include: Who are the students in our school district who exhibit gifts and talents? How do we find them? What intervention approaches, including curricular, instructional, and service delivery strategies, are most appropriate to meet their academic needs? What human and material resources will support the implementation of programming plans? And, finally, what program and student outcomes are expected based on program design elements?

All of these questions are equally important, and decisions about one question affect others. We must address the interdependence and interconnectedness among these questions because they form the foundation for creating challenging opportunities for students with identified and potential gifts and talents. The questions also maintain the focus on the ultimate objectives of designing, developing, and implementing programs for gifted and talented students: (a) Develop a defensible identification system reflecting students' academic needs; and (b) Match student learning needs with appropriate interventions (e.g., curricular, instructional, and service delivery strategies).

Alignment of Identification and Intervention

The importance of alignment between identification processes and program design is widely noted in gifted and talented education literature, and we would hope to find this to be the norm in practice. At least two decades of literature have referenced this fundamental connection. Treffinger (1988) stated that

> contemporary understandings of the nature and diversity of human talents, and on the individual nature of students' learning styles or preferences, suggest that identification should focus more on the needs of students, to enable us to plan appropriate instruction, than merely an effort to categorize or label the student. (p. 4)

Furthermore, Callahan (1996) addressed the disconnect between identification and programming by stating that "we must ask ourselves whether we have expended a disproportionate amount of time, energy, and resources on the task of 'finding the really gifted student' rather than on matching student needs to services" (p. 154). Matthews (1997) noted, "identification and program delivery should occur on an ongoing individual special-needs basis, where academic challenge is appropriate to individual developmental level" (p. 176). Given that many gifted students are served in the general education classroom, Schroth and Helfer (2008) indicated that "if regular education teachers are to serve gifted students in the regular education classroom, these teachers must both be able to identify what gifted students' academic needs are and then devise appropriate instruction to meet those needs" (p. 161). Finally, Callahan, Moon, and Oh asserted in 2014, that the "definition and identification, in theory, should directly guide the types of services that are delivered to students within the program, the curriculum, the

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instruction, and supporting resources that are used for instruction" (p. 10).

It is important to recognize that "many states systematically define and identify gifted students, but how these identification policies link to programming and curriculum options is less obvious" (Brown, 2016, p. 71). Reis (2006) and Reis and Gubbins (2017) identified consistency as one of the traits of high-quality comprehensive program design for high-ability learners. To test for consistency, it was important to check for a match between the district definition of giftedness, procedures for identification, students' learning profiles, and the program design.

Furthermore, the Expertise-Oriented Evaluation Model (Fitzpatrick, Sanders, & Worthen, 2011) also supports the perspective that identification and intervention must be inextricably linked. This model leverages the expert judgment of professionals with research-based and practical knowledge about identifying and serving gifted and talented students. As Callahan, Renzulli, Delcourt, and Hertberg-Davis (2013) asserted, "Congruence between identification and programming is so important that it might be viewed as 'the golden rule' of gifted education" (p. 88).

We contend that providing services in specific areas of talent requires a deliberate connection between identification systems and program planning. Peters, Matthews, McBee, and McCoach (2014) stated, ". . . justifiable identification must always be explicitly linked to the program itself and to qualities and characteristics that predict success in the program" (p. 27).

With recognition of the importance of addressing four elements related to identification and services (i.e., Identification & Placement, Intervention, Infrastructure & Resources, Program & Student Outcomes) and their interconnectedness, we identified the following research question: To what extent do identification practices match interventions (e.g., curricular, instructional, and service delivery strategies)?

Methods

To address our research question, we examined 293 district program plans from two states. These states had gifted and talented identification and programming mandates, they required each district to submit a plan for identifying and serving gifted and talented students, and the plans were publicly available. The district program plans represented current and future plans for a 4-year period.

Our research team completed a document analysis of each district program plan. To conduct this review, we developed a coding scheme by reviewing literature on best practices in identification and programming (Callahan, 2013; McBee, 2006; National Association for Gifted Children, 2010; Rogers, 2007; Siegle et al., 2016; VanTassel-Baska, 2006). In our review, we found researchers supported the examination of early childhood opportunities and talent development in the form of preparation programs, especially for identifying students from at-risk populations (Bredekamp & Rosegrant, 1995; Espinosa, 2010). We also found recommendations for a multifaceted approach to identification that included portfolios; dynamic assessment; curriculum-based performance; observations; nonverbal assessments; teacher checklists; and peer, parent, teacher, and self-nominations, in addition to cognitive assessments and achievement tests (Borland, 2014; Callahan, Renzulli, Delcourt, & Hertberg-Davis, 2013; Frasier et al., 1995; Plucker & Callahan, 2014; Wiley & Brunner, 2014). Furthermore, best practices in identification indicated selection criteria should be included in the process, accompanied by professional development, to ensure implementation fidelity (Callahan et al., 2013). All phases of program design should include an emphasis on program evaluation to determine the what, why, how, and where of decision making. Callahan and Hertberg-Davis (2014) emphasized the importance of

program evaluation utilizing measurable goals that assess identification, curriculum development and implementation, program administration, and staff selection processes.

For curriculum and instruction, gifted education intervention researchers support including domain-specific curriculum, process skills development (Purcell & Eckert, 2006; Rogers, 2007; VanTassel-Baska, 2006; VanTassel-Baska & Little, 2011; 2017), greater depth, breadth, and complexity of curriculum (Kaplan, 2014), enrichment (Gubbins, 2014b), adherence to standards, assessment and curriculum compacting (Reis, Renzulli, & Burns, 2016; VanTassel-Baska, 2014), and culturally responsive practices (Worrell, 2014). Furthermore, recommended service delivery options include general and domain-specific pull-out programs (Gubbins, 2014a), in-class programming, ability grouping (Steenbergen-Hu, Makel, & Olszewski-Kubilius, 2016), cluster grouping (Gentry, 2014), differentiated instruction (Tomlinson, 2014), acceleration (Assouline, Marron, & Nicholas, 2014; Colangelo, Assouline, & Marron, 2014), and homogeneous grouping (Schroth, 2014).

Once we established key components of identification and services from the literature, we completed the following tasks: (a) conducted an initial analysis of a subset of district program plans to identify critical topics; (b) compared the practices to a research-based theoretical framework; (c) field tested the coding scheme with three district plans from each state; and (d) submitted the coding scheme to two experts outside of gifted education for review. The resulting matrix consisted of 139 topics; definitions; descriptions, as needed, to clarify possible exclusion criteria for the topic; and a rating scale of 0=practice is not present; 1=practice is present.

Our research team met for 2 days to test the coding scheme matrix by rating district program plans, calculating inter-rater agreement, and revising the matrix, as needed. Each coder rated a plan independently. We then calculated the level of agreement on each item among the 9 coders. If the inter-rater agreement was less than 80%, we reviewed the program plan and debated the item until we reached agreement. As needed, we revised comments on the coding scheme or clarified language. We then conducted the same approach with a second plan. Finally, we calculated inter-rater agreement on a third plan we selected for training purposes and achieved 82% on the analysis of 139 items.

Prior to analyzing all of the district program plans, we conduced another review of the coding scheme matrix and deleted 6 items that did not represent new or critical topics. Then we reviewed all 293 plans using a reduced set with 133 coding scheme matrix items based on the group training and inter-rater agreement process. Two coding teams participated in this phase. Due to the volume of district plans, one team analyzed all district program plans for State 1, while the other team analyzed all district program plans for State 2 and a subset of State 1 plans.

To ensure continued agreement, all coders on both teams individually rated every 10th plan, and we then calculated the inter-rater agreement. The criterion for continuing the rating process was set at 80% inter-rater agreement. The average inter-rater agreement was 87.8% for State 1 and 91.9% for State 2. The resulting data from the analysis of district program plans serve as the basis for our study of the match between identification and intervention strategies.

For the purpose of this study, we selected two specific identification items from the coding scheme matrix to check the extent to which intervention strategies were used for students with mathematics talent or reading/English language arts talent: (a) Identify students in reading/English language arts (e.g., a student is identified as gifted in reading/English language arts, but not necessarily gifted in other areas); (b) Identify students in mathematics (e.g., a student is identified as gifted in mathematics, but not necessarily gifted in other areas). We used

both identification items to check for the match to learning environments provided for subject area giftedness.

Results

We analyzed our data to determine the extent to which districts that reported identifying students specifically for mathematics or reading/English language arts talent also indicated they provided differentiated learning experiences for those students in the respective subject areas. Of the 293 districts, 76.5% (*n*=224) indicated they identified students specifically in mathematics and 76.8% (*n*=225) indicated they identified students specifically in reading/English language arts. At a time when national attention focuses on students' reading and mathematics achievement, slightly less than 25% of the district plans did not indicate they specifically identified students in mathematics and reading/English language arts for gifted services. Interestingly, 87.4% (*n*=256) indicated they identified students for overall general intellectual ability across subject areas.

We analyzed our data using Crosstabs in SPSS to determine the extent to which districts that reported identifying students specifically for mathematics or reading/English language arts talent also indicated they provided seven differentiated learning experiences for those students in the respective subject areas. As can be seen in Tables 1 and 2, when districts did identify students in mathematics and reading/English language arts they reported using at least one of the seven differentiated learning experiences.

Table 1
Coding Scheme Strategies Used When Districts Specifically Identify Students for Mathematics Talent (n=224*)*

Strategy	***n***	**%**
• Faster pace of coverage in the gifted mathematics curriculum (acceleration, advanced content in shorter time frame, above grade level curriculum)	163	73%
• More in-depth or greater breath of coverage in grade level content in mathematics curriculum for gifted students (digging deeper into the content, extended learning mathematics activities, not covered in the standards, for gifted students)	124	55%
• Regular education mathematics standards for gifted students (e.g., district standards, NCTM standards, Common Core standards)	120	54%
• Pre-assessment of content knowledge and skills in mathematics curriculum for gifted students (use informal or formal assessment techniques; the use of curriculum compacting, may be inferred as using pre-assessment)	108	48%
• Above grade level mathematics standards for gifted students (choose standards/topics at high grade level as the math focus)	84	38%
• Extended or expanded grade level mathematics standards for gifted students (going beyond typical grade level standards)	80	36%
• Separate mathematics curriculum (purposely designed curriculum for gifted students)	23	10%
• Culturally responsive curriculum in mathematics (responsive to students' culture, language, expectations, experiences)	3	1%

Table 2
Coding Scheme Strategies Used When Districts Specifically Identify Students for Reading/English Language Arts Talent (n=225)

Strategy	***n***	**%**
• Faster pace of coverage in the gifted reading/English language arts curriculum (acceleration, advanced content in shorter time frame, above grade level curriculum)	164	73%
• Regular education reading/English language arts standards for gifted students (e.g., district standards, Common Core Standards; unless they specify acceleration or use of an above grade level use of standard, assume they are using the regular education standards)	128	57%
• More in-depth or greater breadth of coverage in grade level content in reading/English language arts curriculum for gifted students (digging deeper into the content, extended learning reading/English language arts activities, not covered in the standards)	124	55%
• Pre-assessment of content knowledge and skills in reading/English language arts curriculum for gifted students (use informal or formal assessment techniques; the use of curriculum compacting, may be inferred as using pre-assessment)	110	49%
• Above grade level reading/English language arts standards for gifted students (choose standards/topics at higher grade level as the reading/English language arts focus)	84	37%
• Extended or expanded grade level reading/English language arts standards for gifted students (going beyond typical grade level standards)	80	36%
• Separate reading/English language arts curriculum for gifted students (purposefully designed curriculum for gifted students; any time they mention specific units in use such as William and Mary, Jacobs Ladder, Great Books, Michael Clay Thompson's Grammar Units)	50	22%
• Culturally responsive curriculum in reading/English language arts (responsive to students' culture, language, expectations, experiences)	4	2%

We did see an alignment between identification and services. On average, districts reported using three of the seven strategies listed. Overall, districts that identified students in mathematics and reading/English language arts, were four times more likely to use a combination of these strategies as districts that did not specifically identify students in these content areas.

As can be seen in Tables 1 and 2, the majority of districts reported utilizing faster pace of coverage (73% for both mathematics and reading/English language arts) as the primary method to differentiate instruction. Across both subject areas, slightly over half used more in-depth or greater breadth of coverage in grade level content and regular education standards for gifted students. Half as many districts used separate mathematics curriculum (10%) as used separate reading/English language arts curriculum (22%). Less than a handful of districts across both

states indicated their mathematics (1%, *n*=3) or reading/English language arts curriculum (2%, *n*=4) was responsive to students' culture, language, expectations, or experiences.

We also investigated what types of classroom learning environments districts indicated they used to serve students whom they identified as gifted in mathematics or reading/English language arts. Districts overwhelmingly indicated they used differentiated instruction (86%), with about a quarter using the tiered instruction strategy (see Table 3). Slightly over half of the districts cluster group students. Cluster grouping has gained popularity over the last two decades. Surprisingly, 24% of districts that identified students in mathematics and/or English/language arts used push-in services, where gifted specialists serve gifted students in their classrooms rather than pulling them out. The push-in model became popular in special education, as a result of the inclusion movement, and it appears to be gaining traction in gifted education classrooms.

Table 3
Classroom Learning Environments Used With Students Identified as Gifted in Mathematics and/or Reading/English Language Arts

Environment	Math Gifted (*n*=224)		Reading/ELA Gifted (*n*=225)	
	n	%	*n*	%
Differentiation	192	86%	193	86%
Push-in Services	53	24%	53	24%
Tiered Instruction	58	26%	59	26%
Cluster Grouping	123	55%	124	55%

Slightly over half of the districts pulled students out of general education classrooms for services (see Table 4). Only 20% used pull-out classes specifically for mathematics (20%); 21% of the pull-out classes were for reading/English language arts. Districts used pull-out classes more often for other subjects or interest areas (33%).

Table 4
Pull-Out Classes for Gifted Students

Pull-Out Classes	***n***	**%**
Pull-out classes (students leave regular education classroom and work with other identified gifted students in a separate location)	156	53%
• Pull-out classes for mathematics	59	20%
• Pull-out classes for reading/English language arts	61	21%
• Pull-out classes for other subject classes/interest area	97	33%

Discussion

It is a basic tenet: Identification of gifted and talented students and services should be connected. Too often, however, detailed screening, nomination, identification, and placement practices are established without considering a basic question: Identification for what? The results of this study indicate that, at least in terms of planning, districts in the two states we examined appeared to be moving toward more cohesive programming. In general, districts whose program plans indicate specific gifted identification processes for students within the

mathematics or reading/English language arts subject areas also plan to provide gifted services to students aligned with those subject areas.

The results of this analysis of the connections between identification sources and intervention strategies has policy implications. If identification data are being collected to determine which students exhibit domain-specific gifts and talents and selected intervention strategies are offered, then an assumption is plausible that there should be a match between identification and programming interventions. As Peters et al. (2014) cautioned: "An identification plan or policy cannot be developed in isolation from the programming or curriculum that will be provided to those students who are identified" (p. 22). While the results of this study are promising in a certain subset of districts (with detailed state-level gifted education policies), a closer look at the match/mismatch between identification and programming in other states with less favorable gifted education policies is warranted.

Limitations and Future Research

It is unclear from our results the extent to which programming plans are actually applied in practice. Because individual schools and teachers vary across districts, implementation of district plans likely fluctuates significantly across settings. Furthermore, the district program plans may not be indicative of what districts are currently doing. Future research should include surveys at the school and district level that provide gifted teachers, general education teachers, and district gifted education coordinators with the opportunity to report what they are currently providing. Furthermore, site visits and interviews would provide a more accurate representation of current practices.

These results are limited to the two districts we studied. Further research is warranted to determine how generalizable they are to other states.

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