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Recommendations for Practice: Designing Curriculum for Gifted Students

Uygulamaya Yönelik Öneriler: Üstün Zekalı Öğrenciler İçin Müfredat Tasarımı

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Abstract

Throughout the literature of gifted education, the modifications recommended for differentiating curriculum for gifted students may be categorized as relating to content, process, product, learning environment, and (to a lesser extent) affective concerns. Due to the Jacob K. Javits Gifted and Talented Students Education Program (funded by the United States Department of Education) in particular, there are now data that provide evidence of some effective curriculum interventions for producing achievement gains in gifted students. Specific recommendations have been gleaned based on findings from the research and about curriculum development and implementation in gifted education (Robins & Chandler, 2013). These may prove useful for designing curriculum or facilitating the development of programming for highly able students. In this article, the author provides background information about the curricular needs of gifted students and specific recommendations for practice that can serve as a guide for key stakeholders to optimize talent and educational opportunity..

Keywords: gifted education, curriculum design, gifted students

Öz

Üstün zekalıların eğitimlerine ilişkin literatüre bakıldığında üstün zekalı öğrenciler için önerilen müfredat farklılaştırmalarıyla ilgili modifikasyonlar içerik, süreç, ürün, öğrenme ortamı ve duyuşsal (diğerlerine göre daha az derecede) kategorilerle ilgili olduğu görülmektedir. Günümüzde Jacob K. Javit Üstün Zekalı ve Yetenekliler Eğitim Programı (ABD Eğitim Dpartmanı tarafından desteklenen) gibi bazı uygulamalardan elde edilen veriler, bazı müfredat uygulamalarının üstün zekalı öğrenciler için etkili ve başarılı olduğuna dair kanıt sunmaktadır. Üstün zekalıların eğitiminde müfredat geliştirme ve uygulamalarıan ve araştırma bulgularına dayalı olarak özel önerilerde bulunulmuştur(Robins & Chandler, 2013). bunlar üstün yetenekli öğrenciler için program geliştirmeye ve müfredat tasarlamaya yardımcı olabilir. Bu makalede yazar üstün zekalı öğrencilerin müfredat gereksinimleri hakkında ön bilgi vererek üstün zekalı öğrencilerin eğitimlerindeki paydaşlara yardımcı olacak uygulamaya dönük özel önerilerde bulunmuştur.

Anahtar Sözcükler: üstün yeteneklilerin eğitimi, müfredat tasarımı, üstün zekalı öğrenci

Introduction

"Controversy in educational discourse most often reflects a basic conflict in priorities concerning the form and content of curriculum and the goals toward which schools should strive" (Eisner & Vallance, 1974, p. v). Traaditionally, the conflict in gifted education has been between the philosophies of enrichment versus acceleration (VanTassel-Baska & Brown, 2001). In spite of the difference in the philosophical orientations, there is agreement about the critical role of curriculum in shaping the talent development process (Borland, 1989; Maker, 1982; VanTassel-Baska, 1996). "No area of emphasis within gifted education

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better captures its core concepts than does the area of curriculum" (VanTassel-Baska, 1998, p. 339). In Borland's view (1989), providing differentiated curricula for exceptional learners is the reason for the existence of gifted education as a field.

Tanner and Tanner's (1989) definition of curriculum (see Terminology) emphasizes how curriculum serves as a means for students to make sense of and use their knowledge and experience. Borland defined differentiated curricula as "modified courses of study designed to make the schools more responsive to the educational needs of these exceptional learners" (1989, p. 171). Tomlinson (2001) emphasized the importance of responsiveness to learner needs and described the elements of curriculum that could be differentiated: content, process, and products. Many of the elements of a defensible differentiated curriculum for gifted learners found in the current literature of the field are "recommended practices," which according to Shore's definition (1988), are suggestions based on the scholarly work of theorists but are not necessarily based on empirical research.

Borland (1989) noted that although defining defensible curricula for the gifted is influenced by an individual's philosophy regarding the appropriate education of these learners, the key to this defensibility is demonstrating the relationship between the students' exceptionalities and the features which make the curriculum differentiated. He states that the minimum requirements for a curriculum for gifted learners must include: 1) agreement regarding what gifted students should learn beyond the core curriculum, 2) the existence of a scope and sequence to frame the knowledge and resulting instructional design, and 3) systematic and intentional alignment with the core curriculum. Once a framework is established based upon these requirements, then it is important to incorporate the following features: an emphasis on thinking processes, meaningful advanced content, independent study, and accelerative options.

According to Maker (1982), the essential elements found in definitions of a differentiated curriculum are: 1) the basis for the differentiation is the unique characteristics of gifted learners, 2) the inclusion of concepts of greater complexity or higher levels of abstraction, 3) an emphasis on the development of advanced thinking skills, and 4) the provision of materials or logistical arrangements to facilitate student growth. Focusing on learner needs as the driving force, Maker's list of characteristics of a differentiated curriculum includes: sophisticated content, an emphasis on higher level thinking skills, the development of quality products, and opportunities for independent study. Throughout the literature of gifted education, the modifications recommended for differentiating curriculum for gifted students may be categorized as relating to content, process, product, learning environment, and (to a lesser extent) affective concerns.

VanTassel-Baska (1994), in her early discussions of appropriately differentiated curriculum, emphasized three distinguishing characteristics of gifted learners: their ability to learn at faster rates than their peers, their ability to find and solve problems, and their ability to

understand abstractions and make connections. She noted that these learner characteristics must be considered throughout the entire curriculum development and delivery process. These can be addressed through modifications of the content model, the process/product model, and the epistemological model to create a differentiated curriculum; these models include many of the features which Borland and Maker considered essential. In later work, VanTassel-Baska (2003) also outlined specific differentiation features that are essential for a curriculum to be considered appropriate for gifted learners: abstraction, acceleration, complexity, depth, challenge, and creativity. Each feature has descriptors that provide guidance for the types of appropriate modifications that must be made to meet the needs of these students.

Shore (1988) defined *recommended practices* as comprising "the considered advice of experts and persons actively involved in the field" (p. 9). In the preface to his list of recommended practices in gifted education, he noted that such interventions may be derived from empirical investigation but frequently are not; therefore, he would consider such practices to be *suggestions* for what teachers and parents should do. In a review of 98 books about gifted education, Shore and his colleagues developed lists of recommended practices in various strands, such as administration/advocacy, curriculum content/skills, and teaching strategies.

Since the time of Shore's examination (1988), other publications have provided information about the research base for various practices in gifted education. Robinson, Shore, and Enersen (2007) wrote a book in which they compiled the evidence base for 29 practices in gifted education. Plucker and Callahan (2013) edited a book examining the existing research base about 50 issues and practices. Both of these publications provide information that gives significant support for many of the curricular modifications and programming provisions promoted as being essential for differentiating for gifted students.

All of these ideas about how and why curriculum should be differentiated for the gifted relate to matching learner needs with specific interventions. In the nascent days of gifted education and even as late as 1988 when Shore conducted his review, substantial empirical evidence did not exist to support the claims of the theorists. Due to the Jacob K. Javits Gifted and Talented Students Education Program in particular, there are now data that provide evidence of some effective curriculum interventions for producing achievement gains in gifted students. Because much of the focus of the Javits program in recent years has been specifically on examining the efficacy of interventions with underserved populations, there are also data that comprise an evidence-base about the curriculum interventions that are most appropriate when working with these children. Some of these ideas are different than the general recommendations discussed in the literature for the typical gifted population.

Terminology

Prior to making recommendations for practice, it is first essential to provide definitions of key terms that will be used in this article. The key terms are those used consistently through-

out this article for describing both the population and the interventions being discussed; they are definition commonly accepted within the field of gifted education.

Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding abilities are capable of high performance. These are children who require differentiated educational programs and services beyond those normally provided by a regular school program in order to realize their contribution to self and society. Children capable of high performance include those with demonstrated achievement and/or potential ability in any one of the following areas:

1. General intellectual ability;
2. Specific academic aptitude;
3. Creative or productive thinking;
4. Leadership ability;
5. Visual and performing arts;
6. Psychomotor ability (Marland, 1972).

Curriculum is "that reconstruction of knowledge and experience, systematically developed under the auspices of the school (or university), to enable the learner to increase his or her control of knowledge and experience" (Tanner & Tanner, as cited in Borland, 1989, p. 175). Curriculum materials are often developed with certain content standards as a basis, or utilizing specific books.

"*Instruction* refers to the various methods the teacher uses to deliver curriculum. The pedagogical strategies typically used by teachers are examples of instruction. These may include, but are not limited to: goal-setting strategies, grouping mechanisms, interest-based learning approaches, scaffolding, using graphic organizers, and modeling (Stambaugh & Chandler, 2012, p. 5).

Assessment is a method of evaluating and measuring student understanding of content. Assessments used within the classroom setting should include both formative and summative methods.

"*Scaffolding,* is a method of both dividing accelerated content into a structure of low to higher level thinking skills so that students can gain more knowledge and confidence, and providing more independence as students become comfortable with complex tasks. Scaffolding moves students from low to high-level thinking and also from lower to greater levels of independence in the completion of tasks" (Stambaugh & Chandler, 2012, p. 5).

"*Differentiated curriculum* is curriculum that has been modified in some way in response to learner needs" (Stambaugh & Chandler, 2012, p. 6). Differentiation is usually based upon the learner's readiness, interest, or learning style. Differentiation may be done relative to the content, process, or products in a learning endeavor.

Recommendations for Practice: Designing Curriculum for Gifted Students

Specific recommendations have been gleaned based on findings from the research and about curriculum development and implementation in gifted education (Robins & Chandler, 2013). These may prove useful for designing curriculum or facilitating the development of programming for highly able students. The following ideas may be used as a guide for key stakeholders to optimize talent and educational opportunity.

Recommendation 1: A Carefully Articulated Curriculum Design Plan is needed

The Center for Gifted Education at the College of William and Mary in Williamsburg, Virginia, USA, is known internationally for its development of curricula for gifted students. All William and Mary curricula feature the Integrated Curriculum Model (ICM) (VanTassel-Baska, 1996) as the guiding theoretical framework for curriculum design. Each unit, regardless of the content focus, features the following components (Robins & Chandler, 2013):

- A curriculum framework that identifies learning goals and anticipated outcomes;
- Authentic assessments for content, concept, and process as a guide for diagnostic and prescriptive instruction;
- Emphasis on higher level thinking through questioning and other activities;
- Emphasis on creative thinking;
- Hands-on, active learning;
- Inclusion of advanced resources;
- Use of a macro-concept (e.g., systems, conflict, change) to elevate understanding of the subject under study;
- Metacognitive components;
- Incorporation of interdisciplinary, real-world research;
- Use of graphic organizers to scaffold instruction and to promote higher level thinking skills; and strong content emphasis that focuses on discipline-specific skills and concepts.

Whenever a teacher or a group of instructors decides that they will develop curricula, regardless of whether a specific curriculum model is used, it is essential that they develop an articulated curriculum design plan that includes designated curricular components. Based on the literature about recommended practices in gifted education, it seems that the first decision should be whether and to what extent they will differentiate the content, process, and/or product. This decision, then, will allow the developers to chart a pathway for determining what elements must be included in the curriculum.

Recommendation 2: The Process Of Developing Curriculum Should Include A Consistent Approach

A consistent approach to the development of curriculum is important, especially when the members of an educational unit (school, district, etc.) are charged with the task of designing materials to be used by many people. Too often, teachers design materials for their own students, without any sort of articulation across grade levels or within a school.

The following is a suggested sequence of steps in developing curricula:

- Review the relevant research about the topic to be studied, a target age level, and the best practices for teaching in the discipline in which the topic falls. The research phase should also take into account alignment with any curriculum standards in the given subject.
- Use the findings from the preliminary research as the foundation for creating a set of draft lessons.
- Try out the draft lessons in multiple classrooms. Based on student receptivity and teacher feedback, revise the lessons.
- Compile all lessons into a comprehensive unit of study.
- Pilot each comprehensive unit in at least one classroom. Use multiple data sources to judge the effectiveness of the unit after implementation; teacher anecdotal notes, student-learning results, and outside expert review could serve as sources of information.
- Make revisions to each unit, based on triangulation of the data.
- Field-test each unit at multiple sites with different teachers. Collect data about treatment fidelity, student growth, and teacher perceptions of effectiveness.

This multistage process allows for the refinement of the unit, based on sources of evidence, to enhance its use as an agent of positive learning. To facilitate this process within a school setting requires pre-planning and the cooperation of many teachers.

Recommendation 3: The Curriculum Development Process Should Involve Collaboration Between Teachers And Content Area Experts.

Discipline-specific expertise is needed to design, develop, and refine curricula to be used with gifted learners. The essential content understandings that are core to understanding the discipline need be developed and articulated. Content experts must be an integral part of unit design and review at the beginning stages of development, as well as assisting in critiques of later drafts of work.

Strong teacher involvement is also important when developing a curriculum that will significantly enhance student achievement. Teachers have a deep understanding of the characteris-

tics and needs of students at various ages. They also understand the intricacies of required standards and school/district requirements.

Collaboration among grade-level teachers, content specialists, and educators of the gifted at all phases of curriculum development produces a higher quality product. Collaboration time should be designated for the critical tasks of curriculum development and piloting, designing student assessments, determining grouping mechanisms, and aligning materials to relevant standards.

Recommendation 4: Include Curriculum-Based Assessments To Document Authentic Learning.

Assessment should be aligned to the curriculum and standards taught within any given discipline. Therefore, pre- and post-curriculum-based assessments are an essential component for measuring the effectiveness of a curriculum on student achievement. One suggestion for the first lesson or set of lessons is to provide a curriculum-based assessment, matched to content, thinking, and problem-solving processes; teachers may use the assessment as a diagnostic tool for instruction. Then, in the last lesson of the unit, include a post-assessment to assess gains in student achievement over the course of the unit.

Recommendation 5: Provide Professional Development On Curriculum Materials In Order To Enhance Faithful Implementation.

For gifted students, not only does curriculum matter, but also the teacher is key. When students in the top 20th percentile grow in achievement, their success may be attributed to placement with highly effective teachers (Sanders & Rivers, 1996). When advanced students do not make noted gains, it may be caused by a lack of opportunity to proceed at their own pace or to be accelerated in their learning, lack of challenging materials, or the concentration of instruction on average or below-average students (Wright, Sanders, & Horn, 1997). Instead, teachers need to use critical thinking and metacognition routinely to enhance student learning (Wenglinsky, 2000).

Likewise, advanced instructional practices are more likely to be sustained when a curriculum, embedded with differentiation strategies, is provided as the basis for professional development (VanTassel-Baska, Tieso, & Stambaugh, 2007). Direct training, as well as ongoing, on-the-job professional development concerning use and implementation of new curricula, greatly increases overall effectiveness because teachers have specific guidance about how to use new strategies they have learned.

Recommendation 6: It Is Important To Monitor Fidelity Of Implementation Of Innovative Curriculum Efforts.

In order for curriculum to be implemented well, it must be monitored to ensure that teachers are using strategies both frequently and effectively. Such monitoring is a significant part of a curriculum effectiveness research protocol, but also should be an ongoing part of ensuring that professional development results in improved student learning (Guskey, 2000). Whether the principal or his designee does such monitoring, the instructional coach, or a mentor is not what is significant, as each school has its own system for instructional management. The important point is that there is documentation for teachers using higher level thinking and problem solving in their classrooms in a manner that enhances student engagement and achievement over time.

Recommendation 7: In Order To Institutionalize Innovative Curriculum And Instruction, Ongoing Efforts Are Needed.

One of the important issues in conducting curriculum intervention studies is the long-term sustainability of the innovation after the initial project is completed. There are several factors that are likely to encourage or discourage innovation and change. Schools that have been able to sustain curriculum interventions, particularly for advanced students, have emphasized ongoing assessment and monitoring of advanced student achievement and instituted policies that require the use of research-based curriculum (VanTassel-Baska, Avery, Hughes, & Little, 2000). Schools also have recognized that results in student achievement and changes in teacher behaviors happen over time with guided and intensive professional development and monitoring (Borko, Mayfield, Marion, Flexer, & Cumbo, 1997).

Conclusion

Curriculum approaches for gifted learners must be deliberate and targeted to the needs of this special group. Curriculum must be relevant to the students' lives and feature advanced level thinking skills with modeling and scaffolding embedded so that students have opportunities to think critically, apply advanced levels of thinking to meaningful tasks, and practice using the language of the discipline. Even if educators are not in a position philosophically or financially to develop research-based curriculum, they can apply pedagogical strategies and key components of such curriculum. Optimal learning for the most able students requires that teachers use high-quality curriculum materials and practice instruction that focuses on higher order skills.

Kaynakça

Borko, H., Mayfield, V., Marion, S., Flexer, R., & Cumbo, K. (1997). *Teachers' developing ideas and practices about mathematics performance assessment: Successes, stumbling blocks, and implications for professional development.* Los Angeles: University of California, National Center for Research on Evaluation, Standards, and Student Testing (CRESST).

Borland, J. H. (1989). *Planning and implementing programs for the gifted.* New York: Teachers College Press.

Eisner, E. W., & Vallance, E. (1974). Five conceptions of curriculum: Their roots and implications for curriculum planning. In E. W. Eisner & E. Vallance (Eds.), *Conflicting conceptions of curriculum* (pp. 1-18). Berkeley, CA: McCutchan Publishing Corporation.

Guskey, T. R. (2000). *Evaluating professional development*. Thousand Oaks, CA: Corwin Press.

Maker, C. J. (1982). *Curriculum development for the gifted.* Rockville, MD: Aspen Systems Corporation.

Marland, S. P., Jr. (1972). *Education of the gifted and talented* (Government Documents Y4.L 11/2: G36). Report to the Congress of the United States by the U.S. Commissioner of Education and background papers submitted to the U.S. Office of Education, 2 vols. Washington, DC: U.S. Government Printing Office..

Plucker, J.A., & Callahan, C.M. (Eds.) (2008). *Critical issues and practices in gifted education: What the research says.* Waco, TX: Prufrock Press.

Robins , J. & Chandler, K. (eds.). (2013). *What works: 25 years of curriculum development and research* (2nd ed.). Prufrock Press, Waco, TX.

Robinson, A., Shore, B.M, & Enersen, D.L. (Eds.) (2007). *Best practices in gifted education: An evidence-based guide*. Waco, TX: Prufrock Press.

Sanders, W., & Rivers, J. (1996). Cumulative and residual effects of teachers on future student academic achievement (Research Progress Report). Retrieved December 27, 2007, from http://downloads.heartland.org/21803a.pdf

Shore, B. (1988). *Recommended practices in the education and upbringing of the gifted: A progress report on an assessment of knowledge base.* Indianapolis, IN: Indiana Department of Education, Office of Gifted and Talented Education.

Stambaugh, T., & Chandler, K.L. (2012). *Effective curriculum for underserved gifted students.* Waco, TX: Prufrock Press.

Tanner, D., & Tanner, L.M. (1980). *Curriculum development: Theory into practice* (2nd ed.). New York: Macmillan.

Tomlinson, C.A. (2001). *How to differentiate instruction in mixed-ability classrooms.* Alexandria, VA: Association for Supervision and Curriculum Development.

VanTassel-Baska, J. (1994). *Comprehensive curriculum for gifted learners* (2nd ed.). Boston: Allyn and Bacon.

VanTassel-Baska, J. (1996). The development of talent through curriculum. *Roeper Review, 18,* 98-102.

VanTassel-Baska, J. (1998). *Excellence in educating gifted and talented learners* (3rd ed.). Denver, CO: Love Publishing Company.

VanTassel-Baska, J. (2003). *Content-based curriculum for low income and minority gifted learners* (RM03180). Storrs, CT: National Research Center on the Gifted and talented, University of Connecticut.

VanTassel-Baska, J., Avery, L. D., Hughes, C. E., & Little, C. A. (2000). An evaluation of the implementation of curriculum innovation: The impact of William and Mary units on schools. *Journal for the Education of the Gifted, 23,* 244–272.

VanTassel-Baska, J., & Brown, E. F. (2001). An analysis of gifted education curriculum models. In F. A. Karnes & S. M. Bean (Eds.), *Methods and materials for teaching the gifted* (pp. 93-131). Waco, TX: Prufrock Press.

VanTassel-Baska, J., Tieso, C., & Stambaugh, T. (2007, November). *Project Athena: Longitudinal effects of a reading intervention curriculum on teachers and students*. Paper presented at the National Association for Gifted Children Annual Conference, Minneapolis, MN.

Wenglinsky, H. (2000). *How teaching matters: Bringing the classroom back into discussions of teacher quality.* Princeton, NJ: The Milken Family Foundation and Educational Testing Service.

Wright, S. P., Sanders, W. L., & Horn, S. P. (1997). Teacher and classroom context effects on student achievement: Implications for teacher evaluation. *Journal of Personal Evaluation in Education, 11*, 57–67.s.