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Quality Curriculum and Instruction for Highly Able Students

Curriculum and instruction for gifted learners should be a response to their learning capacities. Because gifted learners vary considerably as a population, there is no single formula or template for curriculum and instruction that will serve all of them well. In general, however, good curriculum and instruction for gifted learners begins with good curriculum and instruction—that is, curriculum and instruction that is meaning-making, rich, and high level. From that starting point, appropriate modifications for highly able learners typically involve adapting pacing, determining an appropriate degree of challenge, and providing supported opportunities to develop interests. Effective curriculum and instruction for gifted learners will respond to their individual readiness levels, interests, and modes of learning.

THERE IS NO FORMULA for developing defensible curriculum and instruction for gifted

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learners. There are at least two reasons why this is the case. First, gifted learners themselves are anything but formulaic. Within the group we label as gifted are students who are advanced in one or more areas of study and students who are so acutely advanced in their abilities as to make students who are merely advanced appear lost in the dust. There are students whose personal and economic support system has ensured every opportunity to develop the learner's capacity, and students with equal potential but who, in the absence of a support system, have barely begun to develop or even recognize their possibilities. There are very bright students who have learning problems, such as attention deficit disorders, learning disabilities, Asperger's syndrome, deafness, and so on. Some are mature and independent beyond their years, and some are well below age expectations for maturity. Some very bright students are highly divergent in their approach to learning and the world. Others are much more convergent or compliant. Race, culture, and gender can be confounding variables in a student's development and learning needs. As if those variances were not enough to confound the issue of appropriate curriculum and instruction for gifted learners, highly able learners—like all other learners—vary broadly in

personal interests and learning preferences. The consequence of this first reality is that it will take multiple approaches for curriculum and instruction to help these young people reach the full range of their high potential and high performance (Rogers, 2002; Tomlinson et al., 2002).

A second reason curriculum and instruction for gifted learners defies formula is that much of what constitutes good curriculum and instruction for gifted learners is actually much like what constitutes good curriculum and instruction for virtually all learners. In other words, to a noteworthy degree, what serves gifted students well in the classroom is likely to benefit other students also (Tomlinson, 1996). The consequence of this second reality is that a discussion of what it takes to teach gifted learners well begins (but likely does not end) with an unpacking of what we know to be the hallmarks of strong curriculum and instruction in general. Curriculum (what students learn) and instruction (how they learn it) should work in tandem to ensure that each student is consistently engaged with high-quality ideas and processes. Curriculum and instruction should also be responsive to a student's affective needs as well as to his or her cognitive needs.

Thus, it is reasonable to approach an inquiry about what it means to teach gifted learners well in three parts: (a) an examination of the characteristics of best practice curriculum and instruction, (b) an exploration of what else might be needed for gifted learners beyond fundamentally strong curriculum and instruction, and (c) an understanding of how teachers might adapt first and second areas based on variance among gifted learners.

Characteristics of Best Practice Curriculum and Instruction

There is no shortage of knowledge about what high-quality curriculum and instruction should look like. In fact, the challenge comes in distilling a substantial body of guidance into a manageable set of descriptors. The essence of best practice curriculum and instruction is selecting what we teach and how we teach in ways that help learners make sense of important ideas. In classrooms typi-

fied by this sort of curriculum and instruction, teachers carefully select knowledge, understanding, and skill that represent the essential nature of the discipline and topic at hand. They sequence the knowledge, understanding, and skill in ways that enhance meaning. Ultimately, they plan for and carry out the sequences in ways that support student sense-making and application. A primary goal of effective curriculum and instruction is propelling learners along a continuum of expertise—that is, ensuring that students become ever more expert-like in what they learn, how they learn, and what they do with what they learn (National Research Council, 2000). A somewhat more detailed explanation includes the following descriptors. Effective curriculum and instruction:

1. Focuses squarely on the essential facts, concepts, principles, skills, and attitudes that professionals and experts in the discipline value most. It directs student attention to rich and profound ideas, and ensures grounding in what matters most in each topic and discipline.
2. Provides opportunity for students to understand clearly and in depth how the essential information, concepts, principles, and skills work to make meaning and to be useful. It guides students in understanding where, how, and why to use what they learn.
3. Engages the students affectively and cognitively. Students find pleasure, or at least satisfaction, in what and how they learn.
4. Places the student at the center of learning and addresses the reality that different students will learn in different ways, at different paces, and will manifest different interests.
5. Has a product focus. That is, it calls on students to transfer, apply, and extend what they have learned to solve problems, address issues, and create products that are meaningful and purposeful to the student.
6. Guides students in developing their capacities as thinkers and their awareness of their capacities as thinkers.
7. Is relevant to students' varied experiences and lives, including gender, culture, economic status, and exceptionality.

8. Coaches and supports students in developing the skills, tools, attitudes, and processes to become increasingly independent as learners (Brandt, 1998; Erickson, 2002; National Research Council, 2000; Schlechty, 1997; Tomlinson et al., 2002; Wiggins & McTighe, 1998).

Stephen Levy (1996) proposes that effective curriculum and instruction will include at least the following elements:

1. A topic: dictated by standards, curriculum guides, and textbooks.
2. A focus on "the genius of the topic": what is unique about the topic, why it is worthy of our time, how it gives purpose to our lives.
3. Illustrations: examples that embody the genius of the topic, ways to make the abstract become concrete and real in the eyes of learners.
4. Experiences: examples in the lives of students that connect with the abstractions at the heart of the topic's genius. If students do not have such experiences, the teacher must build them with the students.
5. Questions: prompts that help students connect their lives, the important ideas in the topic, and the broader world.
6. Story: a progression of the telling of events in the science or math or history or art so that students grasp its beginning, middle, end, protagonists, antagonists, drama, and themes.
7. Activities: endeavors that directly and personally link students with the important ideas and skills of the topic.
8. Skills and habits: carefully planned practice and application to ensure that students become competent and comfortable with the skills and work habits necessary to turn knowing into doing.
9. Products: opportunities for students to see knowledge come to life, to transport what they have learned. Good products are natural, purposeful, authentic, connective, unique, relevant, and significant (to the discipline, the student, and the broader community).
10. Evaluation: opportunities throughout a unit for both student and teacher to understand a given learner's progression at a particular moment in the flow of the unit. These call on students to ex-

press their understanding of the genius of the topic, using essential skills and habits. They are a natural part of instruction, not an intrusion or interruption in it.

These elements are the essence of good curriculum and instruction for gifted learners. They are also the essence of good curriculum and instruction for virtually all learners. It is unlikely any gifted student will be well served with curriculum and instruction that fails to embody these elements. It is unlikely that other students would be served well under such circumstances either.

Moving Beyond Good Curriculum and Instruction in Serving Gifted Learners

Although it is the case that there is no such thing as effective curriculum and instruction for gifted learners in the absence of effective curriculum and instruction, it is *not* the case that the story ends there for most gifted learners. Given the cognitive capacity of students who are highly able, it is likely that they will—at least at some times and in some contexts—require curriculum and instruction that is more challenging than we would expect of less advanced learners, at least if we expect the advanced learners to continue to grow. The logic is fairly simple. Children who learn more rapidly than others will likely find curriculum and instruction a better fit if it allows them to move at a pace suited to their rate of learning. A reader who is advanced beyond age expectations often needs to read advanced materials. A student who grasps abstractions more readily than some other classmates will likely be more satisfied when he or she can grapple with more abstract content and tasks than those appropriate for many age peers. A student who hungers to explore a topic in greater depth or breadth than is of interest to some other students needs a chance to learn more broadly and deeply, and support in doing so.

Thus, a second issue, beyond that of quality curriculum and instruction in general, relates to what constitutes appropriate challenge for students who perform at levels well beyond grade or age expectations. Posed another way, the question

is, "What does it take to make good curriculum and instruction appropriate for highly able learners?"

Although the answer to that question will vary with the learner, there are some general answers that are useful. Those answers might be viewed in terms of appropriateness of pacing, degree of challenge, and pursuit of passion.

Appropriateness of Pacing

We tend, in school, to pace curriculum with grade level performance in mind. Just as it is the case that some students will require additional time to develop proficiency with the essential knowledge, understanding, and skill of a unit, some students will also require less time. We often refer to that as acceleration of learning. In fact, for very bright students, that pace is not an accelerated one. To the contrary, it is the comfortable pace of learning for those particular students.

Adjusting the pace of learning, however, serves high-ability learners well when it occurs in the context of high-quality curriculum and instruction. Accelerating the pace of insipid curriculum for gifted learners only serves the purpose of allowing them to escape more rapidly from something that should not be acceptable in the first place. Even in the context of rich and compelling curriculum, it is likely to be the case that some learners will master the ideas and skills more rapidly than we envisioned in our planning. In those instances, good curriculum for gifted learners will not only provide for more rapid learning but will also ensure that the accelerated student continually finds vital ideas and skills awaiting him or her. It should not be the case that a brisk pace culminates in waiting for others to catch up, or in spending time in tangential pursuits.

There are three caveats that follow the principle of individually appropriate pacing. First, teachers should be continually vigilant that advanced students understand and can apply what they learn, not that they are simply completing work. Second, teachers need to be attentive to gaps in knowledge, understanding, or skill that can result from an escalating pace. Such gaps do not necessarily indicate that the pace of study

should be decelerated but rather that students receive direction and support in patching holes that might occur. Third, although it is often the case that very bright learners benefit from a more rapid pace than benefits other students, it is also the case that they sometimes need to move more slowly in their study of certain topics. This typically results in instances where a student has strong interests in or curiosity about an area and needs time to learn about it in greater depth or breadth than our initial curriculum plans anticipated. There is considerable evidence that pacing of curriculum and instruction to match the needs of the student is one way of ensuring that good curriculum and instruction is appropriately adapted to address the needs of some highly able students (Rogers, 2002; Shore et al., 1991; Southern & Jones, 1991).

Degree of Challenge

Challenge is a highly individual state. Curriculum that is, at least at the moment, well beyond the grasp of one student in a classroom may provide no challenge at all to another. Ensuring challenge calibrated to the particular needs of a learner at a particular time is one of the most essential roles of the teacher and appears nonnegotiable for student growth. Our best understanding suggests that a student only learns when work is moderately challenging for that student, and when there is assistance to help the student master what initially seemed out of reach (National Research Council, 2000; Vygotsky, 1978, 1986; Wolfe, 2001).

Guidance on what it takes to make good curriculum and instruction appropriately challenging for highly able learners is plentiful. Among avenues to advanced challenge are: use of advanced materials and objectives; expectation for idea generation and creativity; application of advanced criteria for success; complexity of ideas; variety of approaches to learning and expressing learning; open-endedness; multifacetedness of tasks; expectation for transformation of information and ideas; depth and complexity of study; use of the rules, language and tools of the discipline; focus on ethical dilemmas and currently unsolved problems in a field of study; use of multiple abstrac-

tions; reconciling divergent points of view on topics and issues; detecting patterns and trends in materials, topics, disciplines, and across disciplines; and developing advanced skills of self-direction (Betts, 1985; Kaplan, 1994; Maker & Nielson, 1996; Rogers, 2002; Shore et al., 1991; Tomlinson, 1996; Tomlinson et al., 2002; VanTassel-Baska & Little, 2003; Ward, 1980).

The concept of ascending intellectual demand (Tomlinson et al., 2002) suggests that high level, concept-based, meaning-focused curriculum and instruction should be a given for the vast majority of learners, and that such curriculum should be extended for highly able learners in terms of persistent movement toward expertise in one or more disciplines. Although all learners should be systematically guided on a learning journey toward expertise, some learners will be ready to work more like experts at a given time. Working more like experts implies more intense emphasis on understanding the contexts for problems; purposeful data gathering and analysis; seeking multiple, relevant resources for understanding; gleaning pertinent information from seemingly extraneous data; posing insightful questions about content and ways of working; organizing knowledge to enhance meaning and accessibility; determining differences between typical and novel instances; representing problems in a thoughtful, fruitful way; stepping outside personal experience to seek alternative views; making useful, complex connections among ideas and events; creating novel (fresh, unexpected, and useful) applications and products; developing systems for effective, efficient learning and problem solving; determining significance of events; reflecting on one's own thinking and its effectiveness in given situations; looking for subtle examples and illustrations; raising questions about reasons for and use of knowledge; demonstrating a firm commitment to excellence; seeking meaningful critique; using present knowledge to plan for future directions; and examining impact of decisions on self, others, and society (Tomlinson et al., 2005).

It is important in the planning of curricular challenge to recall again that gifted learners are themselves a heterogeneous group. Challenge exists for individuals at given times. It seldom looks

the same for all members of a group or at all times. Nonetheless, curriculum and instruction consistently at individually appropriate degrees of challenge ensure that highly able learners regularly encounter challenge, learn to tolerate and tackle challenging work, and ultimately appreciate the role of challenge in helping them grow into their possibilities (Tomlinson, 1998).

Developing Passion

Learners who are highly able often manifest their abilities in particular areas or pursuits. In other words, gifted students are typically gifted *in* something. It makes sense for educators to attend to those facets of high potential or performance, at least in part by providing learning opportunities that enable the student to vigorously pursue the ideas, skills, and habits of mind that typify the work of practitioners and contributors in those areas (Bloom, 1985; Renzulli, Leppien, & Hays, 2000).

Enabling students to develop strength areas is likely to involve departures from even high-quality curriculum and instruction in ways that almost inevitably affect both pacing and degree of challenge. In addition, learning opportunities that support students in developing areas of strength and interest support students in developing passion for and commitment to continued learning in those areas (Csikszentmihalyi, Rathunde, & Whalen, 1993; Renzulli & Reis, 1997).

Curriculum and instruction that actively encourages advanced learners to pursue passions and interests will typically be characterized by student choice; an action orientation; engagement with authentic ideas, problems, and audiences; high personal relevance; complexity; demand for creativity; development of advanced level skills; critical feedback from knowledgeable audiences; and honing of attitudes and habits necessary for self-directed learning (Bloom, 1985; Renzulli & Reis, 1997; Tomlinson, 1998).

Returning to the Big Picture

Although most teachers require focused study coupled with persistent application and reflection

to develop and sharpen the skills necessary to teach advanced learners well, the logic behind those skills makes perfect common sense. All people grow from a starting point. The starting points of highly able learners are often advanced well beyond those of many classmates. Highly able learners, like all other learners, can only grow when they are stretched. It generally requires curriculum and instruction which is often more advanced than age expectations to be a catalyst for the stretching of advanced learners. Schools only succeed when they contribute significantly to helping each learner become what he or she ought to be. Highly able learners only become what their potential predicts when they are assiduously aided in moving toward the possibilities their particular abilities suggest.

Good curriculum and instruction for gifted learners is rooted in good curriculum and instruction, and proceeds from there in ways that extend the learner cognitively and affectively. It is almost never an issue of quantity but rather begins with what we know to be high-quality curriculum and instruction in general and from that genesis responds to and maximizes the capacities of the particular learner to know abundantly, think deeply, and understand broadly in areas of strength, interest, and promise.

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