

ENGLISH

Challenging Units for Gifted Learners

TEACHING THE WAY GIFTED STUDENTS THINK

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Introduction: We Are Intellectual Archeologists

The creation of a thousand forests is in one acorn.

– Ralph Waldo Emerson

Three True Stories

A teacher with whom I enjoy working once complained to me that one of her students should not receive gifted services because he was lazy. “He never finishes his maths boxes so why provide enrichment activities for him?” Later that day, I asked him why he hadn’t finished his maths boxes, the morning maths challenges. He told me that he became distracted by trying to calculate mentally the number of cement blocks in one of the classroom walls. Without counting each block, but by extrapolating from the pattern of the first two rows, he had got the number right. I had known since he was in Year 2 that he was much brighter than I am – probably brighter than anyone else in the building.

While I was in New York working on my dissertation, I stopped in one of those ubiquitous Chinese fast food restaurants that lined the Lower West Side. Ahead of me in line were three very young, very pregnant girls. From their conversation, I guessed that they were taking a summer class for unwed mothers and each had been given a budget by the program with which to buy lunch. Two of the girls were immobile in line trying to figure out from the wall menu what to order and how to divvy up the costs. The third girl rattled off several suggestions that would be divided unevenly as would the costs. She then figured each girl’s contribution and change instantly in her head. I have often wondered if anyone, including her, had valued her rapid-fire maths skills.

Not too long ago, I was working with a secondary school English class on adding mood-evoking pictures to poetry podcasts. I stopped to read the poem of one girl; it was stunning in its imagery and subtle complexity, reminiscent of Emily Dickinson. I had known the student for years and thought that she was a better-than-average writer. But because I had never engaged her in a poetry project, I had completely missed her true gift.

The point of starting with these stories is that, although there are many children with exceptional gifts who test well, appear precocious before starting school and earn good marks, there are also extraordinary youngsters in our classrooms whose gifts are not as easily recognised. We therefore need to strive to understand and respond to the giftedness in our students by continually digging until we uncover each child's strengths. We must be intellectual archeologists. I hope that this book gives teachers additional tools with which to uncover these gifts.

Three factors underlie the projects presented in the following chapters: (a) the unique way gifted students think; (b) the role of content-specific, expert knowledge; and (c) the role of the teacher/mentor in instructing gifted learners. Each of these influences is discussed below.

Qualitatively Different Thinking of Gifted Learners

This book is written from a cognitive psychology perspective. I begin by reviewing current research that offers insight into the distinctions between the thinking of gifted and more typical students. In compiling the research for this discussion, my focus has been on explaining – not just listing – the intellectual processes in which gifted students engage, particularly those that they use in structuring and solving open-ended problems. I detail how these processes operate and how they are observed. Following this review of the research, the remainder of this book offers units that both challenge and develop those cognitive processes.

Hertberg-Davis and Callahan (2008) reported that gifted students often have to wait until Advanced Placement (AP) courses (Australian Tertiary Admission Rank [ATAR] in Australia) in their final secondary school years to enjoy the academic challenges that they had found lacking throughout their educational careers. But research indicates that appropriately serving advanced learners requires an infusion of higher-level challenges into the sequences of classes that they encounter throughout all of their school years – beginning in the early years. Therefore, this book is designed to help you present units that gifted learners will find challenging and that will foster their complex thinking – beginning in the early years. It is written to appeal to students with a range of intellectual gifts and learning styles and to help you keep them engaged across year levels and content areas.

Domain-Specific Knowledge

Each book in the Challenging Units for Gifted Learners series presents various units based on in-depth, domain-specific knowledge of central principles and content. To develop mastery of this complex, domain-specific knowledge, Bass, Magone and Glaser (2002) recommended that students demonstrate an understanding of both the principles and the complex problem-solving procedures that are particular to the content area at hand. This is because it is an understanding of domain-specific principles and problem-solving procedures that separates beginners from experts in particular subject areas. In physics, for example, the domain-specific principle may be a law of inertia. For fiction writers, the principle may be that juxtaposing images creates complexity in a character. In each of these examples, principles or cause-and-effect relationships are domain-specific; nevertheless, in both domains, it is a grasp of principle-based, procedural knowledge that characterises the experts. Thus, in writing each book in the series, I begin by asking what the core principles and concepts of the domain at hand are.

The books also require that students explore this domain-specific knowledge in depth. The National Research Council (USA) suggests that in-depth learning occurs not from memorising material from a text or lecture, but from successfully transferring core, principle-based knowledge from one situation to another (Bransford, Brown & Cocking, 1999). Yet, it is this former knowledge base that so many equate with high-level understanding. According to Moon (2008), if a teacher believes that knowing facts is what is important rather than big ideas and conceptual understanding, then how could the gifted student be challenged? For example, on an episode of *Jeopardy*, one of the categories was 20th Century American Poets. As the questions became more arcane, the prize money jumped. But is this factual recall reflective of gifted-level insight in English?

According to Anderson (2005), regardless of the subject area, more successful learners tend to see knowledge as overlapping networks of facts, often related by cause and effect or other procedural insight. For example, the knowledge needed to appreciate Emily Dickinson might centre around how her compressed and, at times, inverted sentence structure supported her multifaceted use of a single image. This then raises the questions, “What does it mean to have expertise in poetry?” and “How should an understanding of this expertise drive instruction for both gifted students and their more typical counterparts?”

For me, the answer to these ongoing questions is that we need to gear instruction for all students to these big ideas and conceptual, principled knowledge and guide students to use these principles to drive their academic problem solving. To do this well, we first need to understand how successful learners are thinking when they are solving complex problems and then provide instruction that both challenges and nurtures this kind of thinking in our students.

The Teacher's Role in Fostering Intellectual Gifts

Research suggests that people who reach expert levels of understanding might be highly gifted in the first place, but that they still need training and practice to develop their gifts. There are several specific accounts of genius that show the need for teachers and mentors to guide their development and to maximise their potential.

Being in this role is a huge responsibility. Just think about little Albert Einstein doing poorly in primary school. It was not until his uncle began teaching him number tricks that he became excited about maths. What would have happened if his uncle hadn't intervened when teachers had failed? I wonder what happened to all of the other little Alberts who had the talent but not the teacher? That is part of what motivates us to teach – at least it is for me. Thus, we see that, as teachers, we have a particular obligation to recognise the potential for greatness in our students and to nurture their gifts as they reach expertise – and beyond.

In Bloom's (1985) work on creative children, he pointed out that although gifted musicians started training early, they also showed a proclivity for their eventual expertise before this training began. The musicians were described as quick to learn the piano and were recognised as gifted by their parents before beginning lessons. What seems equally relevant to the recognition of talent in Bloom's work is the role of the teacher. "[The prodigies] training began in early childhood with warm and loving teachers who were then supplanted by more demanding and rigorous master teachers." (Winner, 2000, p. 160).

Finally, in considering the teacher's role in carrying out the projects presented here, I am reminded of Scarr's (1997; see Feldhusen 2005) point that nature does not give gifts; it gives genetic potential. In comparison to their age-level peers, some children are fortunate enough to be born with the potential to learn material earlier and faster, to handle more complexity and abstraction and to solve complex problems better. But this potential needs stimulating experiences from home and school or it will not unfold (Feldhusen, 2005). This book is designed to help teachers provide the stimulating curricula that will nurture this potential. The projects presented here are based on research into how these students actually think differently from their peers and how they use their learning styles and potentials not merely to develop intellectual expertise, but to move beyond expertise to the production of new ideas. I am hopeful that through these units, students will develop their superior abilities because we have understood and encouraged their unique way of thinking.

I believe that the core of being intellectually gifted is thinking that is qualitatively different from the way most people think. Giftedness is about processing in a more complex way. The subsequent chapters in this book present units that foster and develop this kind of thinking.