The Handbook of Secondary Gifted Education: New Curricular Strategies for Educators

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The Handbook of Secondary Gifted Education

- First Edition was published in 2006.
- This book was a contribution to Gifted Education as it focused totally on secondary students and their education.
- It contained four parts—each devoted to an aspect of the adolescent gifted student.

The Second Edition

- Maintains many of the aspects of the first edition in its focus on secondary gifted students.
- Attends to the many changes that have occurred in education for the gifted student since 2006.
- Contains new chapters that address issues in talent development, STEM, Common Core Standards, Twenty-First Century Skills, and other relevant issues.

The Second Edition

- Has Five (rather than Four) Parts:
  - Part I: **On Being Gifted and Adolescent**
  - Part II: **Talent Development in Adolescence**
  - Part III: **What Schools Can Do: Provide Rigorous Curriculum for Gifted Secondary Students**
  - Part IV: **What Schools Can Do: Provide Support Services**
  - Part V: **What Teacher Education Can Do**

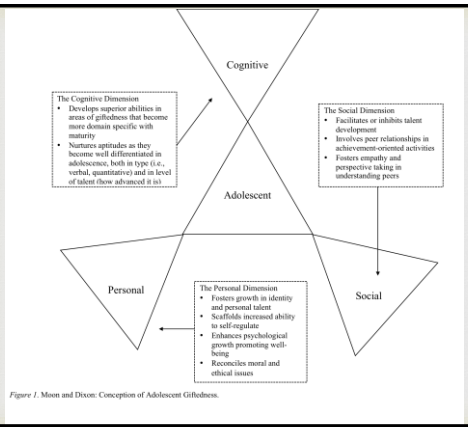

Figure 1. Moon and Dixon: Conception of Adolescent Giftedness.

The Moon/Dixon Holistic Conception

- We have modified our conception to address the needs of gifted adolescents more specifically than did the model presented in the first edition of *The Handbook*.
- Each dimension includes more areas that we need to attend to in educating this special group of students.
- Changes in the Personal and Social Areas include focus on moral and ethical dimensions (Personal) and empathy (Social).

Major Changes in Parts I and 2

- Part I: Purpose: To focus on the nature of gifted adolescents –
  - Characteristics,
  - Needs,
  - Individual Differences
- All seven chapters in Part I have been substantially revised and updated.

Major Changes in Part II

- Part II: Purpose: To give educators a sense of the complete talent development process in multiple domains across time.
- Three Chapters in Part II:
  - Chapter 8 is a revision from the first edition (Jarvin and Subotnik).
  - Chapters 9 and 10 are new to the book.
  - Wai and Olszewski-Kubilius offer new insights into the talent development process for gifted adolescents.

Major Changes in Parts IV and V

- Part IV: Purpose: To provide the context for programs for gifted adolescents.
- Changes:
  - Additional chapters on Leadership and School Counseling(Chapters 19 and 21).
  - More focus on AP specifically (Chapter 18).
- Part V: Purpose: To reinforce the importance of teacher education, school administration, and professional development in the lives of gifted adolescents.
- Changes:
  - Updating information from the first edition.

Major Additions in Part III

- Purpose: To Highlight needs in curriculum that have occurred since our first edition.
- We have addressed all four STEM disciplines.
- Our Mathematics (16) and Science (13) Chapters have been revised to note the current trends and needs in these disciplines for high ability adolescents.
- Major chapter additions include the chapter on Technology (Chapter 14) and the new chapter on Engineering (Chapter 15).
- Our Social Studies Chapter (12) is substantially changed.
- Our English Chapter (11) also reflects major changes since the first edition.
- All chapters on curriculum have addressed the impact of Common Core Standards, Content Standards, and Twenty-First Century Skills.

In Sum,

- The Second Edition continues to showcase research on areas that impact the education of gifted students at the secondary level.
- The Second Edition focuses on changes that must be considered as we continue to offer an education that is relevant to the educational landscape.
- The Second Edition is a Major Contribution to Gifted Education.

Current Trends in STEM and Social Studies Education

- We will first address what the focus of each discipline is
- Technology will go first
- Engineering will go second
- Social Studies will go third
- We will move to strategies and opportunities for students that result from the courses
- Finally, Please Chat With Us! We are anxious to answer any questions and listen to your comments!

Technology Education for High-Ability Students

- Chapter Focus: How students improve or create new technologies rather than use technologies that already exist for learning.
- Today's students are part of an entrepreneurial trend.
- An entrepreneurial approach maintains a balance between innovation and demonstrated need.
- Three approaches to technological entrepreneurship: Lean Startup (Eric Ries), the Scientific Method and Next Generation Science Standards (Engineering).

Four Models for Technology Education

- Curricular Incubator Model: "Business Incubator Start Up 1," Barrington High School
- Curricular Accelerator Model: "Introduction and Application of Entrepreneurship," North Carolina School of Science and Mathematics
- Extracurricular Accelerator Model: "TALENT," Illinois Mathematics and Science Academy
- Self-initiated Models: Student Case Studies

Strategic Insights and Opportunities

- Ideas (must) originate with students.
- Authentic opportunities must be available.
- Nonhierarchical structures and dedicated spaces facilitate learning.
- Internet access is readily available for learning and collaboration.
- Setbacks are viewed as learning opportunities.
- Assessment is based on what students create and learn.

Engineering

"The next great advance in the human condition will likely result from improved engineering instruction for gifted and talented students."

~Branson D. Lawrence, Jr. October 20, 2014

Engineering Misconceptions

Engineering education currently faces several issues and misconceptions:

- Lacks definition
- Viewed in terms of construction
- Assumed to be a high-level, mathematically-dense field

Skill Development

- Engineering teachers need to facilitate their students' abilities to effectively access information and apply it appropriately.
- Skill development in creativity, communication and business acumen coupled with understanding of mathematics and science systems are the hallmarks of an effective engineering education program and curriculum.

Creativity

- Real-world problems that require creative solutions and innovations.
- Not one correct answer.

Communication

- Effective skills in speaking, writing, and listening.
- Designing team engagement and discourse around engineering problems.

Business Acumen

- Technology has fueled the economic engine for the world.
- Engineers need to determine economic advantages and opportunities for designing products and systems.

STEM

- Mathematics and science skills are not enough to educate the next generation of engineers. The cognitive activities used by engineers and engineering students utilize higher-order thinking skills.
- Analyze problem, Work on Solution, Evaluate, Repeat

Assessment

- Incorporate technologies.
- Demonstrate understanding for those concepts that worked well and identify those that need improvement.
- Exhibit knowledge gained through writing and shared through presentations.
- Multiple levels: Self, Peer, Group

Social Studies Trends

- #integrative nature of curriculum
- #exploratory human experience
- #commitment to living in democratic society
- #promotion of media literacy
- #adaptive civic socialization
- #promotion integration of technology into student learning
- #C3 Framework: College, Career, Civic Life

Social Studies Strategies/Opportunities

- *constructing positive learning experiences
- *instructor passion
- *students' willingness to experiment with failure
- *preparing individuals to become good citizens
- *development of scholarly capacities

Questions