Duke | AMERICAN ASSOCIATION for GIFTED CHILDREN at the Social Science Research Institute

Project Bright Tomorrow - Implementation Guide

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North Carolina Department of Public Instruction; The American Association for Gifted Children and The Research Network at the Social Science Research Institute, Duke University, 2012.

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PROJECT BRIGHT IDEA 2: Interest Development Early Abilities

Transformational Model
Pathways to Intellectual Diversity and Leadership

GOALS

To increase the number of gifted students from underserved populations via changing teachers' dispositions and capacity to wisely use curricula tailored to those students.

To increase the number of third graders from underrepresented populations who enroll in gifted and talented programs.

To advance the quality of these students' metacognitive and cognitive skills.

Funded by the US Department of Education, Jacob Javits Gifted and Talented Students Education Program, 2004-2009
North Carolina Department of Public Instruction and The American Association for Gifted Children at Duke University

Transformational Model: Pathways to Intellectual Diversity and Leadership

Creating New Understandings of Knowledge
Developing Talents and Wisdom

Conceptually-Designed Instructional Delivery Model

- Standards
- 21st Century Taxonomies
- Interest Development
- Metacognition
- Concepts, Generalizations
- Essential Questions
- Intelligent Behaviors
- Curriculum Tailoring
- New Thinking Models
- Vocabulary Development
- Learning Styles
- Multiple Intelligences
- Decision Making
- Problem Seeking/Solving

21 st Century Learner

- Diverse Populations
- Concept of Changing Intelligence
- Developmental Journey
- Visual-Spatial Learner
- Global Learner
- Knowledge Creators
- Technology "Savvy"

Learning Environment

- Child Centered
- Emotionally Safe, Risk-Taking
- Teacher as Facilitator
- Culturally Responsive Teaching
- Multicultual Literature
- Inquiry Based
- Center-Based Learning
- Discussions
- Interactive Materials
- Meaningful Bulletin Boards
- Technology
- Parent/School/Community
- Interactive World

State of the Art Professional Development
Balanced Assessments and Evaluations

I.A.

Funded by the US Department of Education, Jacob Javits Gifted and Talented Students Education Program, 2004-2009
North Carolina Department of Public Instruction and The American Association for Gifted Children at Duke University

PROJECT BRIGHT IDEA 2: Interest Development Early Abilities
A Javits K-2 Nurturing Program funded by the United States Department of Education
2004-2009

Essential Questions?

How do we educate the child born in 2000 to live, work and compete in the "flat world" described by Thomas Friedman?

How will this generation of children grow up with the necessary knowledge and wisdom, as defined by the new 21st century taxonomies, to address issues, problems and challenges when solutions are complex and not easily definable and accessible?

More importantly, how will children have meta-cognitive prowess to explore deeper questions to ponder and seek solutions to problems not yet known?

Leonardo, The Dreamer
A Debate by Leonardo and Michelangelo

Demonstration Site
Thomasville Primary School
Thomasville, North Carolina

Transforming Education for the 21st Century Learner

Project Bright IDEA 2 was designed as an integrated approach to transforming the classroom for kindergarteners, first and second graders into a vibrant community of learners and problem solvers. This unique K-2 research model, funded by the Javits Program of the United States Department of Education, was designed and implemented by the North Carolina Department of Public Instruction and the American Association for Gifted Children at Duke University in response to a legislative mandate to increase the number of gifted children from underserved populations into gifted and academically challenging programs. Based on the success of *Project Bright IDEA 1*, a pilot intervention program for closing the achievement gap, *Project Bright IDEA 2* was awarded the grant to "upscale" the program to more schools and to research the impact on gifted programs from underserved populations.

***Bright IDEA* Goals**

Project Bright IDEA 2 had four goals: 1) to scale-up the activities of *Bright IDEA 1* toward increasing the number of gifted students from underserved populations via changing the dispositions and capacity of teachers to wisely use curricula tailored to teaching those students; 2) to study the extent to which such activities increase the number of third grade students from underrepresented populations who enroll in gifted programs; 3) to advance the quality of these students' meta-cognitive and cognitive skills; and 4) to create a research-based multi-dimensional, pre-identification model for gifted intelligent behaviors (GIB's) based on the Costa and Kallick's *Habits of Mind* and on Frasier's *Traits, Attributes and Behaviors*.

Bright IDEA 2 began in kindergarten and tailored gifted methodologies for regular classroom teachers to use with all children. *Bright IDEA 2* was built on the most advanced research and best practices and focused on empowering regular classroom teachers, principals and curriculum specialists, through training and mentoring, to become curriculum architects for the future. Participants were trained to design interdisciplinary, concept-based curriculum units consistent with state standards, infused with *Building Thinking Skills* and *Gifted Intelligent Behaviors,* and to change their dispositions and classroom environments to meet the learning styles and needs of all students.

Bright IDEA 2 students were challenged to use the full range of their talents and intellectual abilities as they address authentic and complex academic tasks. The program built upon and extended the *North Carolina Standard Course of Study* through rigorous concept-based integrated learning tasks and a research-based thinking skills program. *Bright IDEA 2* teachers and principals created scholarly environments that engaged students actively and consistently in sophisticated investigations of materials, texts, and in learning tasks that required them to understand and apply critical and creative processes that were quite advanced for K-2 students. Students were engaged in centers designed around multiple intelligences with task rotations integrated with four major learning styles.

PROJECT BRIGHT IDEA 2: Interest Development Early Abilities
A Javits K-2 Nurturing Program funded by the
United States Department of Education
2004-2009

Bright IDEA Research

Brunswick County
Belville, Lincoln & Supply
Duplin County
BF Grady & North Duplin
Elizabeth City-Pasquotank
JC Sawyer & Northside
Guilford County
Allen Jay, Murphey Traditional & Northwood
Hickory City
Viewmont & Jenkins
Lenoir County
Contentnea, Pink Hill & Northwest
Moore County
Aberdeen & Vass-Lakeview
Roanoke Rapids Graded District
Belmont & Wm. Manning
Robeson County
Peterson & Rosenwald
Rowan-Salisbury Schools
China Grove & Hurley
Wake County
Aversboro & Lynn Road
Harris Creek & Wakelon

Principal Investigator:
Mrs. Mary Watson,
Retired Director (March 1, 2013)
Exceptional Children Division, NCDPI

Co-Designer:
Mrs. Mary "Valorie" P. Hargett,
Retired, EC Division &
Curriculum, Instruction & Technology Division, NCDPI

Evaluator: Ron Tzur, Ph.D.
University of Denver
Research Assistant:
Rachael Kenney, Ph.D.
Purdue University

For More Information:
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Executive Director, AAGC
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Professional Development Model

The professional development (PD) Model was designed to change dispositions about how to teach diverse populations within a rigorous curriculum environment and to have high expectations for the potential of each and every child. The Model built upon and extended the work of Dr. Mary Frasier who was pivotal in infusing the cultural perspective in the *Bright IDEA 1* pilot program. Frasier's *Talents, Attributes and Behaviors* (*TAB's*) and the *Habits of Mind (HOM)* developed by Dr. Art Costa and Dr. Bena Kallick were adapted into *Gifted Intelligent Behaviors* that were observed and documented on each child in *Bright IDEA 2* classes. The first phase of teacher training focused on integrating the state standards, Parks and Black's Thinking Skills, Bloom's revised taxonomy, Marzano's new taxonomy, mathematics for young children, and Stage 1 of *Understanding by Design* into their teaching practices. Participants were prepared to write a concept-based interdisciplinary unit based on a *Bright IDEA* designed template.

A *Buddy System Observational Tool,* (Hargett*)* was created, to assist the teachers as they observe each other's classrooms. This tool helped in observing how a *Bright IDEA* classroom deviates from typical classrooms and promotes teachers' continual improvement of the learning environment as they become more adept at teaching their units and managing their classrooms.

Now funded for the entire five years, data has been collected on approximately 4200 *Bright IDEA 2* students and 4200 standard program students and 400 participants, including 168 *Bright IDEA 2* classroom teachers. An additional 168 standard program teachers had data collected on their classes. Data has been collected from *North Carolina K-2 Assessments* and a math problem-based questionnaire. A pre and post curriculum unit was taught that integrates all of the best practices into one unit for deep understanding of the concepts. Out of these assessments, gifted intelligent behaviors were observed in students and reported as progress toward independent learning and potential for gifted programs.

The professional development model included training by national, state and local trainers providing all participants with research-based instructional practices. An *Educator Disposition Survey* was administered to all participants at the beginning and end of training to determine the impact of training on principals' and teachers' dispositions and their practices. As a result of the training and the practice in the classroom, the project has produced approximately 125 concept-based integrated curriculum units. The multi-cultural, concept-based interdisciplinary units provide rigor and differentiated instruction for the high population of diverse students.
Project Bright IDEA 2 was designed to fulfill the recommendations set forth in the *Darity Report* that was submitted to the State Board of Education on the status of underserved populations and the need to close the achievement gap and to increase the number of gifted children from these populations. Results indicate that the Project has more than met the stated goals of the research.

PROJECT BRIGHT IDEA 2: Interest Development Early Abilities
A Javits K-2 Nurturing Program funded by the
United States Department of Education
2004-2009

Impact of Project to Date:
Five-Year Research Project
Eleven School Districts
28 Cohort Schools
168 Bright IDEA Classes
168 Standard Classes
1 Demonstration Site

Curriculum Design Training for:
180 Classroom Teachers
15 AIG Teachers
30 School Principals
11 AIG Coordinators
15 Curriculum Specialists
8 Mentors – Pilot Site
Dissemination Sites

Research-Based Training Adapted for Bright IDEA:
Thinking Skills (Parks & Black)
New Taxonomy (Marzano)
Bloom's Revised Taxonomy
Habits of Mind (Costa & Kallick)
Talents, Attributes, and Behaviors (Frasier)
Learning Styles (Silver & Strong)
Multiple Intelligences (Gardner)
Mathematics for Young Children (Olive & Sheffield)
Understanding by Design (McTighe & Wiggins)
Interest Development (Alexander & Gayle)
Performance Task Rotations & Instructional Strategies (Moirao)
Differentiated Instruction (Smutny)
Concept-Based Curriculum Model (Hargett and Gayle)
Multicultural Methods & Materials
North Carolina Standard Course of Study
All three cohorts have been supported by numerous on-site follow-up curriculum design training events conducted by the project team, AIG coordinators, lead AIG teachers and lead mentors from the participants in Bright IDEA.

Research Findings

Increasing Talent Pool for Underrepresented Populations

Before project Bright IDEA 2 began its work in 2004 in the 6 counties of Cohort-1, essentially no students from their schools were nominated to Gifted and Talented programs from underrepresented populations. Due to the mere requirement of participating schools to recommend students, 72 (10%) third graders who graduated from **non**-Bright IDEA classes were nominated. With this positive change in mind, the impact of Bright IDEA on its 2nd grade graduates was ***astonishing*** - 88 (24%!) third graders who were taught by Bright IDEA second grade teachers were nominated for Gifted and Talented programs. That is, **one in every four** students from Bright IDEA classes developed the multi-intelligence powers needed for being nominated. A chi-square analysis of proportions reveals that this is an extremely significant difference ($p < .0001$).

Gifted Intelligent Behaviors (GIB's)

Bright IDEA teaches *Gifted Intelligent Behaviors*, adapted from Costa and Kallick's, *Habits of Mind* and Frasier's, *Talents, Attributes and Behaviors* through concept-based curriculum units designed by the teachers and principals in the project. Rubrics were used to develop a profile of the students that led to the increase in the head count for the talent pool of Bright IDEA students.

Changing Teacher Dispositions

The goals of the project were accomplished in terms of teachers' adoption of key pedagogical principals and major change was evident in: dispositions toward race/ethnicity, toward parents' role and the teacher's need to proactively partner with the parents, and toward understanding how to teach math to young children.

Evaluator's Kudos (Ron Tzur, Ph.D.)

After five years, project Bright IDEA-2 demonstrated two essential attributes: (a) capacity to initiate and sustain, in a sizeable number of teachers, a desired transformation in the notoriously resistant-to-change modes of teaching and (b) capacity of the team to self-improve via intensive reflection on unexpected problems and via immediate and efficient responses to ongoing feedback (formative evaluation). These two produced a remarkable increase in the number of underserved students who become eligible for Gifted and Talented programs. Combined, these findings suggest that Bright IDEA is evolving into a national model program for transforming teaching and learning at K-2 levels.

This model program consists of the project goals (found to be comprehensive, focused, unique, and scalable), professional development activities (found to be highly effective and teacher-empowering), and degree to which the project goals are accomplished (i.e., found to increase the number of underserved students nominated for G/T programs and to promote desired changes in teacher dispositions/practices). Teachers have become excited about innovating around their own creative use of the model.

PROJECT BRIGHT IDEA 2: Interest Development Early Abilities
A Javits K-2 Nurturing Program funded by the United States Department of Education 2004-2009

References

Increasing Opportunity to Learn via Access to Rigorous Courses and Programs: One Strategy for Closing the Achievement Gap for At-Risk and Ethnic Minority Students. A report prepared for the North Carolina Department of Public Instruction by:

William Darity, Jr.
University of North Carolina at Chapel Hill

—

Domini Castellino
Duke University

—

Karolyn Tyson
University of North Carolina at Chapel Hill

Submitted to the State Board of Education, May 2001.

In response to State Law2000-67, Section 8.28(b), which directed the State Board to study the under-representation of minority and at-risk students in Honors classes, Advanced Placement and academically gifted programs. For the full report: **www.ncpublicschools.org**

State Laws

115C-150S - Article 9B was passed in 1996 to broaden the definition of academically gifted and to give school districts flexibility in determining how AIG students are identified. For more information on NC Gifted Laws: **www.ncagt.org**

Bright IDEA has been adapted in a strategic plan for The Exceptional Children Division, NCDPI, to meet the needs of Coordinated Early Intervening Services (CEIS) and to align with RTI strategies for special needs students.

Article 9B – North Carolina Law

The section of Chapter 115C of the North Carolina General Statutes addressing academically or intellectually gifted students is Article 9B, a section added in August 1996. It replaced previous sections of Article 9 that pertained to academically gifted students and removed gifted education from the law governing children with special needs. It begins with a statement of purpose and definition of gifted students. §115C-150.5. *"The General Assembly believes the public schools should challenge all students to aim for academic excellence and that academically or intellectually gifted students perform or show the potential to perform at substantially high levels of accomplishment when compared with others of their age, experience, or environment. Academically or intellectually gifted students exhibit high performance capability in intellectual areas, specific academic fields, or in both intellectual areas and specific academic fields. Academically or intellectually gifted students require differentiated educational services beyond those ordinarily provided by the regular educational program. Outstanding abilities are present in students from all cultural groups, across all economic strata, and in all areas of human endeavor."*

Nurturing the Potential and Developing Talent in K-2 was a strategy designed by the North Carolina Department of Public Instruction to implement one of the recommendations of the *Darity Report* and as a response to State mandates.

Bright IDEA Local Education Agencies (LEA's) Student Population 2008-2009 Membership:

***Brunswick County – 11,452 Students**
Duplin County– 8,756 Students
***Elizabeth City/Pasquotank County – 5,995 Students**
***Guilford County– 70,332 Students**
***Hickory City – 4,474 Students**
***Lenoir County – 9,425 Students**
***Moore County– 12,231 Students**
***Roanoke Rapids Graded School District – 2,281 Students**
Robeson County– 23,204 Students
***Rowan-Salisbury – 20,428 Students**
***Thomasville City-Demonstration Site – 2,551**
***Wake County – 132,518 Students**
***School Districts have expanded components of the Model across their districts based on available funding. Building Thinking Skills, Habits of Mind and Learning Styles Training are the components most used. Many are training on Marzano and Bloom's Revised Taxonomy also.**

Mary Watson, Director, Exceptional Children Division, NCDPI and Dr. William Darity, Professor, Duke University and Board Member of AAGC discuss: Project Bright IDEA and the rationale for the research on NC Now, UNCTV. Check it out: http://is.gd/a2vu3

See classroom videos: www.marinegrafics.com/briteideas/
Visit AAGC at: www.aagc.org for updates as available.

STEM21: Project Bright Tomorrow - Instructional Design Framework
Pathways to Intellectual Diversity and Leadership

The Changing Nature of Intelligence & Rigor

North Carolina Standard Course of Study & Essential Standards
National Common Core Standards: English/LA & Mathematics
National Science Standards – STEM

Parks & Black's Building Thinking Skills, K-5

Marzano's, New Taxonomy of Educational Objectives & Bloom's Revised Taxonomy K-12

Costa and Kallick's, HOM's Frasier's Tab's (GIB's) K-12

STEM Concept-Based Curriculum Units
Synthesis by Valorie Hargett of Wiggins & Tighe's, UBD, Kaplan & Erickson Work

Unpacking the Big Ideas
From the STEM Essential Standards
Universal Concepts for STEM Units
CHANGE. CHAOS. PATTERNS. RELATIONSHIPS. SYSTEMS
Gifted Intelligent Behaviors' Focus
Creating, Imagining & Innovating
Questioning & Posing Problems
Communicating with Clarity and Precision
The Engineering Design Process,
Ask-Imagine-Plan-Create-Improve

Differentiated Classroom Flexible Groups & Performance Tasks
Silver & Strong's, Learning Styles; Gardner's, Multiple Intelligences & Others

Bright IDEA & STEM Training For Teachers, Principals and Specialists

Educator & Student Disposition Surveys
Teachers: Buddy System Observational Tool and Interviews

Bright IDEA 2 & STEM Training For Teachers, Principals and Specialists

Effective Tools for Measuring Student Potential and Achievement

- NCLB, End of Grade Tests: Science, Math & English/LA, NCDPI
- Math Problem Based Questionnaire, 3rd Grade (Tzur, 2004); Cognitive Abilities Test (CoGAT
- Rubrics - Intelligent Behaviors (Designed by Hargett, Gayle and Participants in Project Bright IDEA, 2002-2003)
- Parent Interviews and Profiles of their children (Alexander and Gayle's, Development of Interest, AAGC, 2004)
- Digital Portfolios; Student products developed on real world problems using the Design Process.

Project Bright IDEA 2 – North Carolina Department of Public Instruction © 2005
Jacob Javits Grant funded by the US Department of Education -2004-2010
Exceptional Children's Division, NCDPI and The American Association for Gifted Children (AAGC)
Instructional Design by Valorie Hargett, NCDPI and Margaret Gayle (AAGC), 2004, Revised, 2011

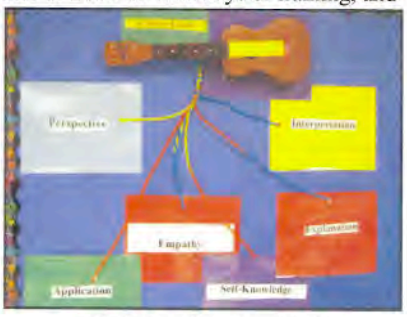
Project Tomorrow: *Student Success in the 21st Century*

Abbott Hunsucker
Director Title I
Lenoir County Schools

Northeast Elementary School

A unique opportunity to combine two schools (C.H. Bynum Elementary and Teachers Memorial Elementary) came about this school year in Lenoir County. Both schools served populations with over 95 percent free and reduced lunch status and a 99 percent African-American student body. It is fair to say that both schools were underachieving. Bynum Elementary had been declared low performing and was about to enter year four of NCLB sanctions; Teachers Memorial Elementary was "holding" in its first year of NCLB sanctions. Everyone knew going forward that something innovative had to be done in order for the new school to be successful. Through collaboration with Margaret Gayle, Executive Director of the American Association for Gifted Children at Duke University and a Lenoir County central office team, a proposed vision of doing something different at the new school was introduced. This new vision was called "Project Tomorrow: Student Success in the 21st Century."

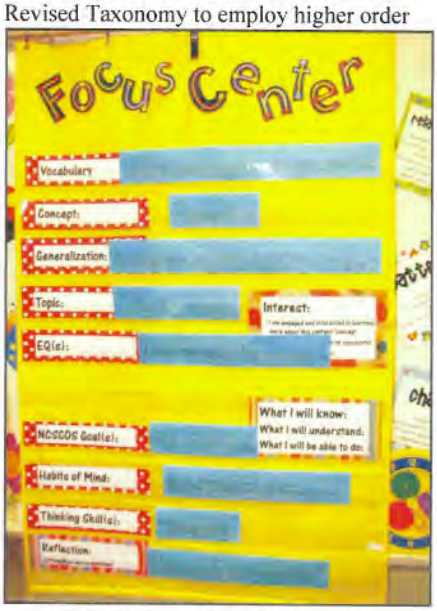
The vision for Project Tomorrow was built from a framework for success already introduced in two of our elementary schools. Lenoir County Public Schools had been involved since 2004 in a research project called Project Bright IDEA II, co-designed by Valerie Hargett and Margaret Gayle and under the direction of Margaret Gayle. The Bright IDEA project, a K-2 nurturing model, promotes a new way of thinking and teaching. The model facilitated unity between teachers, students, and families by providing strategies for a clear, focused, total school curriculum. The preliminary results of Project Bright IDEA II have overwhelmingly supported one of the project's primary goals of closing the achievement gap. This same model was used for Project Tomorrow, but was extended to include all students in grades K-five. Intensive professional development was required for this new initiative to be successful. Teachers from Northeast Elementary came together during the summer of 2009 for nine days of training, and follow-up training is scheduled to be held throughout this school year and next summer.



Understanding through the six facets of learning

The bulletin boards in this Project Tomorrow classroom show, from left to right: "Habits of Mind/Gifted Intelligent Behaviors," "Focus Board," and "Thinking Skills."

Project Tomorrow implements an integrated approach to teaching by relating concepts such as relationships, change, or systems through exploring essential questions. Teachers are trained to design interdisciplinary concept-based curriculum units. Teaching through concepts helps to ensure that students know and can explain the "why" behind what they do. Project Tomorrow builds upon the *North Carolina Standard Course of Study* by adding rigor to the content and by utilizing the research-based Building Thinking Skills program (Parks and Black). Another unique quality about Project Tomorrow is that *Gifted and Intelligent Behaviors*, adapted from Costa and Kallick's *Habits of Mind* and Mary Frasier's *Talents, Attributes and Behaviors,* are infused throughout the curriculum. Students are engaged in centers that provide task rotations through four major learning styles and multiple intelligences. Teachers use Bloom's Revised Taxonomy to employ higher order questioning techniques. The environment of the Project Tomorrow classroom is designed to enhance the quality of metacognitive and cognitive skills.



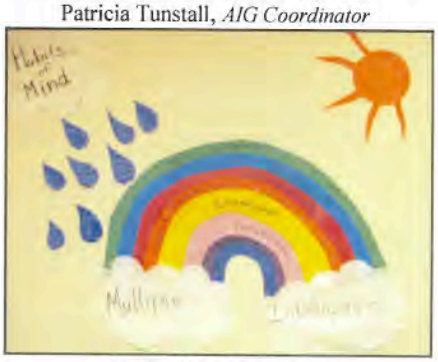
A focus board exhibits the essential elements in a unit of study

The most important aspect to the success of Project Tomorrow is the school culture. At Northeast, everyone believes that all students can achieve at the highest level. A "no excuses" philosophy is the motto. The essential questions that we ask ourselves are, "How do we educate the child born in 2000 to live, work and compete in the 'flat world' as described by Thomas Friedman? How will this generation of children grow up with the necessary knowledge and wisdom as defined by the new 21st century taxonomies to address issues, problems, and challenges when solutions are complex and not easily definable and accessible? More importantly, how will children have metacognitive prowess to explore deeper questions to ponder and seek solutions to problems not yet known?"

Project Tomorrow is our way of leading this generation toward these goals.

Credits:

Diane Lynch,
Associate Superintendent (retired)
Mildred C. Dunn, Principal,
Northeast Elementary School
Ellen Benton,
Executive Director of Instruction
Tezella Cline,
Professional Development Specialist
Patricia Tunstall, *AIG Coordinator*



Habits of Mind/Gifted and Intelligent Behaviors

The New Taxonomy of Educational Objectives by Robert Marzano

Three Systems and Knowledge

Self System		
Beliefs about the importance of the knowledge	Belief about the Efficacy (ability to learn)	Emotion associated with knowledge
Overall Motivation to Learn		

Metacognitive System			
Specifying learning goal	Monitoring for execution of knowledge	Monitoring for clarity	Monitoring for accuracy

Cognitive System												
Retrieval		Comprehension		Analysis					Knowledge Utilization			
Recall	Execution	Synthesis	Representation	Matching	Classifying	Error Analysis	Generalizing	Specifying	Decision Making	Problem Solving	Experimental Inquiry	Investigation

Knowledge Domain		
Information Conceptual and Factual	Mental Procedures	Physical Procedures

Types of Knowledge in Revised Bloom's Taxonomy

		Sub-Types
Factual Knowledge	Knowledge of…	Terminology Specific Details and Elements
Conceptual Knowledge	Knowledge of…	Classifications and Categories Principles and Generalizations Theories, Models, and Structures
Procedural Knowledge	Knowledge of…	Subject-specific Skills and Algorithms Subject-specific Techniques and Methods Criteria for Determining When to Use Appropriate Procedures
Meta-Cognitive Knowledge		Strategic Knowledge Knowledge about Cognitive Tasks Self-Knowledge

From *Anderson, Lorin and David Krathwohl, A Taxonomy For Learning, Teaching and Assessing. New York: Longman, 2001.*

Revised Bloom's Taxonomy Table

	The Cognitive Process Dimension					
The Knowledge Dimension	**1 Remember**	**2 Understand**	**3 Apply**	**4 Analyze**	**5 Evaluate**	**6 Create**
A Factual Knowledge	**Recognizing** Identifying **Recalling** Retrieving	**Interpreting** Clarifying Paraphrasing Representing Translating **Exemplifying** Illustrating Instantiating **Classifying** Categorizing Subsuming **Summarizing** Abstracting Generalizing **Inferring** Concluding Extrapolating Interpolating Interpolating Predicting **Comparing** Contrasting Mapping Matching **Explaining** Constructing Models	**Executing** Carrying Out **Implementing** Using	**Differentiating** Discriminating Distinguishing Focusing Selecting **Organizing** Finding Coherence Integrating Outlining Parsing Structuring **Attributing** Deconstructing	**Checking** Coordinating Detecting Monitoring Testing **Critiquing** Judging	**Generating** Hypothesizing **Planning** Designing **Producing** Constructing
B Conceptual Knowledge						
C Procedural Knowledge						
D Meta Cognitive Knowledge						

The Taxonomy Table – Most Frequent Occurring Standards

	The Cognitive Process Dimension					
The Knowledge Dimension	**1 Remember**	**2 Understand**	**3 Apply**	**4 Analyze**	**5 Evaluate**	**6 Create**
A Factual Knowledge						
B Conceptual Knowledge						
C Procedural Knowledge						
D Meta Cognitive Knowledge						

Project Bright IDEA Definitions for Unit Design
Big Ideas adapted from UBD, Wiggins and McTighe

Topic -
Text –
Author -
Published -

Concepts	Themes
• An organizing idea or mental construct • A broad abstract idea or guiding principal • A design or plan • Can be something imagined	• A unifying idea or quality that is distinct and recurring • The subject of discussion or a course of study
Issues or Debates	**Problems or Challenges**
• A topic discussed in detail • A topic of general concern • A formal exchange of opinion • An organized public discussion or argument	• A difficult matter, situation or person • A question that needs to be solved, justified or explained • Demands on the intellect • A test of one's abilities
Processes	**Theories**
• Preparation for something through a series of steps or actions • A series of natural events that produce change • An established procedure aimed at somebody or something	• An abstract thought or contemplation • An idea or belief about something arrived at through speculation or conjecture • A body of rules, principles and techniques that apply to a particular subject, but distinct from actual practice
Paradoxes	**Assumptions or Perspectives**
• A contradictory or absurd statement, situation or proposition, but at a deeper level, may actually be true • An oxymoron "To lead the people, walk behind them." _____Lao-tzu	• Something believed to be true, without proof—or can be a starting point of a logical proof • An evaluation of a situation or facts from one person's point of view

A BIG IDEA

Provides a conceptual lens.

A big idea refers to core concepts, principles, theories and processes that should serve as the focal point of the curricula, instruction and assessment. Big ideas reflect expert understanding and anchor the discourse, inquiries, discoveries, and arguments in a field of study. They provide a basis for setting curriculum priorities to focus on the most meaningful content?

Serves as an organizer for connecting important facts, skills and actions.

Big ideas function as the "conceptual Velcro" for a topic of study. They connect discrete knowledge and skills to a larger intellectual frame and provide a bridge for linking specific facts and skills. A focus on these larger ideas helps students to see the purpose and relevance of content.

Transfers to other contexts.

Discrete facts do not transfer. Big ideas are powerful because they embody transferable ideas, applicable to other topics, inquiries, contexts, issues and problems. Because we can never cover all the knowledge on a given topic, a focus on the big ideas help to manage information overload. Big ideas provide the conceptual through-lines that anchor a coherent curriculum.

Manifests itself, in various ways, within disciplines.

Big Ideas are typically revealed through one or more of the following forms: a core concept (adaptation), a focusing theme (man's inhumanity to man), an ongoing issue or debate (conservative vs. liberal) a puzzling paradox (poverty amidst plenty), an important process (writing process), an authentic problem or persistent challenge (illiteracy or voter apathy), an illuminating theory (Manifest Destiny), an underlying assumption (the markets are rational), or differing perspectives (terrorist vs. freedom fighter).

Requires un-coverage, because it is an abstraction.

A Big Idea is inherently abstract. Its meaning is not always obvious to students and simply covering it (teacher or textbook defining it) will not ensure student understanding. Coverage is unlikely to cause genuine insight; understand must be earned. Thus, the idea must be uncovered – its meaning discovered, constructed or inferred by the learners with the aid of the teacher and well-designed learning experiences.

Big Ideas Manifested

TOPIC

Concepts	Themes
• Equity • Friend • Function • Genre • Sample • Scarcity	• Good triumphs over evil • Man's inhumanity to man • Saving for a rainy day
Issues or Debates	**Problems or Challenges**
• Nature vs. nurture • Liberty vs. license • Majority always rule	• How to maximize power and control in golf or tennis • Maximize shipping volume
Processes	**Theories**
• Problem Solving • Scientific Investigation • Decision Making	• Natural selection • The Atkins diet • Big Bang Theory
Paradoxes	**Assumptions or Perspectives**
• Fighting for peace • No force acting on a body moving at constant speed • Less is more	• Art conveys meaning • Terrorist vs. freedom fighter • Capitalism is the best economic system

Big Ideas Manifested

TOPIC

Nutrition

Concepts	Themes
• Food Groups • Overweight	• A balanced diet • You are what you eat
Issues or Debates	**Problems or Challenges**
• Value of synthetic vitamins • Safety and effectiveness of various diets	• Balancing taste with good nutrition • The lure of fast foods
Processes	**Theories**
• Research • Scientific Inquiry	• Various diets that promise weight lose • Diet affects longevity
Paradoxes	**Assumptions or Perspectives**
• The prevalence of nutrition-related health problems despite all of the available information about healthful eating • A healthy diet for one person may be unhealthy for another •	• The USDA Food Pyramid defines healthful eating • Vegetarians are healthier than meat eaters

Big Ideas Manifested

TOPIC

Westward Expansion and Pioneer Life

Concepts	Themes
• **Pioneer** • **Migration** • **Adaptation**	• **Hardship forged a nation** • **The "pioneer" spirit**
Issues or Debates	**Problems or Challenges**
• **Progress – Settling the land vs. un settling Native Americans**	• **Surviving the harsh and dangerous frontier life** • **A clash of cultures**
Processes	**Theories**
• **Historical Inquiry (how do we find out what pioneer life was really like? Whose story is it?)**	• **Native Americans as "noble savages"** • **Manifest Destiny**
Paradoxes	**Assumptions or Perspectives**
• **Pioneers' illusions of freedom and prosperity were key to luring people to the West** • **Indentured servants in "the land of the free"**	• **The West as the "land of opportunity"**

Big Ideas Manifested

TOPIC

Concepts	Themes
Issues or Debates	**Problems or Challenges**
Processes	**Theories**
Paradoxes	**Assumptions or Perspectives**

Six Facets of Understanding – UBD, McTighe and Wiggins

Facet 1 – EXPLANATION

Sophisticated and apt explanation and theories that provide knowledge and justified accounts of events, actions and ideas. Why is this so? What explains such events? What accounts for such action? How can we prove it: To what is the action connected? How does this work?

Facet 2 - INTERPRETATION

Narratives, translations, metaphors, images and artistry that provide meaning. What does it mean? Why does it matter? What of it? What does it illustrate or illuminate in human experience? How does it relate to me? What makes sense?

Facet 3 - APPLICATION

Ability to use knowledge effectively in new situations and diverse contexts. How and where can we apply this knowledge, skill and process? How should my thinking and action be modified to meet the demands of this particular situation?

Facet 4 - PERSPECTIVE

Critical and insightful points of view. From whose point of view? From which vantage point? What is assumed or tacit that needs to be made explicit and considered? What is justified or warranted? Is there adequate evidence? Is it reasonable? What are the strengths and weaknesses of the idea? Is it plausible? What are its limits? What is a novel way to look at this?

Facet 5 - EMPATHY

The ability to get inside another's person's feelings and worldview? How does it seem to you? What do they see that I don't? What do I need to experience if I am to understand? What was the authors, artist or performer feeling, seeing and trying to make me feel?

Facet 6 – SELF-KNOWLEDGE

The wisdom to know one's ignorance and how one's patterns of thought and action inform as well as prejudice understanding. How does who I am shape my views? What are the limits of my understanding? What are my blind spots? What am I prone to misunderstand because of prejudice, habit and style? How do I learn best? What strategies work for me?

Gifted Intelligent Behaviors©
Project Bright IDEA 1, 2 and 3 - 2001-2015

Adapted from Habits of Mind (HOM) by Dr. Art Costa and Dr. Bena Kallick and Traits, Attributes and Behaviors (TABs) of Gifted Students by Dr. Mary Frasier

A set of intelligent behaviors determined to be the "soft skills" that businesses need, but commonly practiced by successful, ambitious, motivated and thinking leaders. These behaviors will help students "as they are challenged by problems, dilemmas, paradoxes and enigmas for which the solutions are not immediately apparent."

Persisting - HOM
(Motivation - TAB)

Listening With Understanding/Empathy - HOM
(Interpersonal/Intrapersonal/Insight - TABs)

Thinking Flexibly - HOM
(Reasoning/Problem Solving - TABs)

Thinking About Thinking/Metacognition - HOMs
(Reasoning/Memory - TABs)

Questioning and Posing Problems - HOM
(Problem Solving/Inquiry - TABs)

Applying Past Knowledge - HOM
(Insight - TABs)

Thinking and Communicating With Clarity and Precision - HOM
(Communications -TABs)

Creating, Imagining & Innovating - HOM
(Imagination - TABs)

Taking Responsible Risks - HOM
(Problem Solving - TABs)

Finding Humor - HOM
(Humor - TABs)

Remaining Open to Continuous Learning-HOM
(Interest - TABs)

Javits Research funded by US Department of Education - 2004-2009
North Carolina Department of Public Instruction and
The American Association for Gifted Children, Duke University
Adapted by Gayle and Hargett for Pilot Project Bright IDEA 1, 2001.

Teacher's Signature

_____

Student Name _____ **Grade** _____ **Date** _____

Gifted Intelligent Behavior (Sample Rubric)

Thinking About Thinking MetaCognition (Reasoning/Memory) Rubric

Literary Selection _____

Assignment _____

.	Readiness Exploratory/ Discovery	Early Emergent/ Emergent	Progressing	Early Independent	Independent
Understands how one thinks/stores information or arrives at a solution/decision.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Gathers and organizes materials/resources prior to embarking on a task/decision making.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Develops plan(s) to clearly progress from one point to the next point.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Habitually notes information others miss when evaluating and reflecting on effectiveness of solutions/products.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**

These activities are noted by Mastery Learner (A), Interpersonal Learner (B), Understanding Learner (C) and Self-Expressive Learner (D). The A, B, C, and D are conveniently located on each rubric task rotation activities in order to allow the teacher to align appropriate activities with the intelligent behavior and the observable degree of development with the behaviors when working on the activities. By circling the appropriate letter, the teacher indicates which activity, learning style and degree of development of the observable intelligent behavior the student has demonstrated.

Additional Comments _____

Multiple Intelligences

Frames of Mind: The Theory of Multiple Intelligences - Howard Gardner

Celebrating the uniqueness and diversity of students!
Intelligence is not fixed.
Intelligence is not unitary. In what ways are we smart?

Gardner's Prerequisites for Defining an Intelligence
Skills enabling individuals *to resolve genuine problems*
The ability *to create an effective product*
The potential for *finding or creating problems*

Verbal Linguistic – Word Smart
How may I use the spoken or written language to demonstrate knowledge?

Logical Mathematics – Logic-Math Smart
How may I use numbers, logic or critical thinking to demonstrate knowledge?

Visual/Spatial Intelligence – Art/Space Smart
How may I use visuals, visualization and/or colors to demonstrate knowledge?

Musical/Rhythmic - Music Smart
How may I use music, environmental sounds and/or rhythmic to demonstrate knowledge?

Bodily/Kinesthetic – Body Smart
How may I use body movement or use hands-on experiences to demonstrate knowledge?

Naturalist Intelligence – Nature Smart
How may I use the environment to demonstrate knowledge?

Interpersonal Intelligence - People Smart
How may I engage in small groups to demonstrate knowledge?

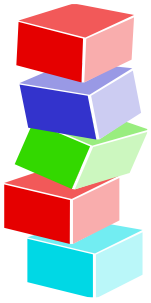
Intrapersonal Intelligence – Self Smart
How may I employ/increase meta-cognitive strategies
to gain a better understanding of self?

Learning Styles

So Each May Learn: Integrating Learning Styles and Multiple Intelligences
Authors: Silver and Strong, Trainer: Daniel Moirao, ED.D

Mastery Learner (Facts)
Sensing-Thinking

I want to know exactly how to do it, step by step.



V__L__S__M__B__P__I__N__

Interpersonal Learner (Feelings)
Sensing-Feeling

Please let me work with my peers and share my experiences.

V__L__S__M__B__P__I__N__

Understanding Learner (?'s)
Intuitive-Thinking

I need time to ponder and think from multiple perspectives.

V__L__S__M__B__P__I__N__

Self-Expressive Learner (Ideas)
Intuitive-Feeling

I love exploring the 'what if's "and creating solutions that others have not considered.

V__L__S__M__B__P__I__N__

Questions in Style

Mastery

Key question: What?
fact-by-fact

Who . . .
What . . .
When . . .
Where . . .
Name four reasons . . .

List . . .
Define . . .
Remember . . .

Interpersonal

Key question: If what, so what?
Friend-by-friend

What do you prefer . . . why?
Given a choice, which would you choose . . . why?
Decide . . .
Share your thoughts about . . . why?
What is your opinion about . . . why?
What would you do about . . . why?

Understanding

How . . .
How are . . . similar
How are . . . different
Analyze
Yes, but why?
What conclusion can you make?

Explain . . .
summarize

Key question: Why?
Doubt-by-doubt

Self-Expressive

What if?
In what ways can you?
Create
Hypothesize
Imagine that
How is . . . like a . . . ?
Suppose ____ happened. .. .what would then happen?
How many different ways can you . . .

Key question: What if?
dream-by-dream

Thinking Skills and Key Concepts (TS) Program

Researchers: Sandra Parks and Howard Black

Overview Prepared by Margaret Gayle, Project Bright IDEA Director

Purpose of Thinking Skills (TS)

The Thinking Skills Programs, (Pre-K-5) are built on developing the analysis skills and critical mental models for children that will provide a foundation for all children to be successful in school as they advance through grade levels. The main purpose for selecting this program for Project Bright IDEA, to nurture the potential in underrepresented populations, was the evidence that was gathered by Miami-Dade Schools through the implementation of Parks and Black's Program.

The evidence included: 1) student achievement gains; 2) teacher, student and parent satisfaction; and 3) the knowledge and advances that the children made in vocabulary development and geometry. Bright IDEA evidence included significant success by all students on the *NC Literacy and Math Assessments* during Project Bright IDEA 1: a pilot program that was implemented in 2001-2004. Based on the pilot, the Javits Award was granted to study how to "scale up" the program across a larger population of students. After three years in Project Bright IDEA 2, teachers report that the Thinking Skills Program is one of the most important set of skills and processes that helped make Project Bright IDEA successful.

When the Department of Public Instruction was searching for a Thinking Skills Program as part of a State Nurturing Program, the recommendation was made to look at the model that Miami-Dade and Palm Beach Schools were using and to evaluate their results. After reviewing the literature on other programs, TS was selected because of the achievement results in Florida Schools, the developmental nature of the program and the competence and quality of the authors and the respect for their work in the field of Critical Thinking Researchers.

Thinking Skills and Key Concepts for Nurturing Potential Goals:

1. Promotes foundational and advanced k-2 cognitive skills and mental models for acquisition of the Standards in the North Carolina Course of Study.
2. Builds a large, universal vocabulary of English usage across all the disciplines. (. (TS=2000 universal words; most programs =1000 words)
3. Develops and produces descriptive writing paragraphs by end of Kindergarten because of the focus on speaking and writing in complete sentences.
4. Teaches learners *Piaget's Theory* to proceed from the concrete to semi-concrete to abstract verbal form.
5. Builds students' competence and confidence in taking assessments.
6. Provides success for all learners, including ESL and other Exceptionalities.

Skills and Processes

The six cognitive skills (describing, finding similarities and differences, sequencing, classifying and forming analogies) outlined in the program are research-based on the relevance and prevalence in academic disciplines and found on Standardized Tests.

These analysis skills are required in all content areas and are all aligned with the Standards in the North Carolina Course of Study and other State Standards..

Major Components

1. *Smart* Student Book Approach

Paper and pencil tasks alone do not offer the same cognitive benefit as combining thinking skills tasks in all forms—using pictures, manipulatives, and think-pair-share to immerse all students in practicing cognitive tasks. Young students learn best when going from the concrete form first with the then practicing the tasks in paper and pencil form and in discussion with a partner in a think, pair, share approach selecting the correct response as each sees it, explaining it in their own language to each other and supplying correctly the right choice to a question. These exercises together provide the rich language and contextual meaning for the students. As the teacher introduces content standards, students can provide a collection of responses through a rigorous discussion for each lesson as seen in examples of group responses from lessons.

The Thinking Skills Programs teaches a rigorous content lesson as children move beyond the Figural and Verbal activities. The lessons are integrated into local curriculum and pacing guides. The TS lessons should be taught when the teachers are introducing new content or reviewing standards. This program can be adapted to meet local initiatives and used as another high-level resource for teaching critical thinking.

In both figural and verbal strands, exercises are sequenced in the order that a developing child learns: cognition, evaluation and convergent production processes. The processes for all activities include: Select, Explain, Supply and Evaluate—all processes provide an excellent strategy for doing tasks and activities for any lesson.

2. Training Approach

The training can be conducted in a half-day session on each of the levels to help teachers and administrators understand how to use the Teacher Manuals and how to teach the lessons. The training that has been implemented, as a result of Project Bright IDEA 2, includes one half-day for teachers to understand the background and another half day on the demonstration of model lessons. This training requires that the teachers read and understand the Teacher's Manual and that they use the recommended methods of instruction for the students. This training does not take the place of follow-up classroom visits by mentors, principals and curriculum specialists to assist with support and additional training. Trainers and mentors from Bright IDEA 2 provide on-site classroom or school visits to assist teachers with strategies for task rotations and model lessons, when requested.

3. Individual Learning Needs

The TS materials, when used appropriately, provide the teacher with built-in high level content strategies for meeting the individual needs of all children, including those identified as Exceptional Children. Some children will be able to move through the lessons quickly or may not need some of them at all. ESL children and those with learning disabilities or exceptionalities have been highly successful with BTS and in the

pilot program--the gap was closed for these populations. The research underway with Bright IDEA 2 continues to show evidence that all children are highly successful with this program. Identified gifted children can move beyond these lessons into thinking skills infused into content using gifted methodologies. This program provides teachers with guidance on differentiating instruction for all children. For data on all populations from Project Bright IDEA, see https://aagc.ssri.duke.edu

All six thinking skills used through the TS Program should be infused in every subject and re-enforced through the common core and essential standards.

Summary
Thinking Skills is internationally recognized as superior in the field of cognitive-based critical thinking research. This program is one-of-a-kind program for Pre-K-2 children especially, even though it is a program for K-12 and materials are available for all grade levels. Project Bright IDEA 2, the Javits Research program is expanding the project across many districts based on principals, teachers and parents requesting it for all of their students as they expand beyond the cohort schools. Much of the evidence to support expanding across grade levels has been through observations and test scores, including high scores on the Cognitive Abilities Test (CoGAT) and the Iowa Test of Basic Skills. The program promotes strategies that correlate with the Cognitive Abilities Test (CoGAT), one of the criteria used for identifying gifted students.

Recommended Minimum Time Spent on Direct Instruction, Dialogue and Reflection:
Kindergarten – 20 minutes, 3 days a week
First Grade – 25 minutes, 3 days a week
Second through Fifth Grade – 30 minutes, 3 days a week
Infuse thinking skills in all subject areas.

For information on the authors, Sandra Parks and Howard Black or to get an in-depth view of the Instructional Design of the TS Program and specific instructions for teaching the program, see Thinking Skills and Key Concepts, Teacher Manuals and Student Books from Cogitare Books.

Anastasia Books
Contact Mary Ellen Kirby or Sandra Parks
PH: 904-827-0075
E-Mail:

Project Bright IDEA - Building Thinking Skills
Checklist for Lesson Implementation

	LESSON INTRODUCTION
	Uses the essential question
	Think-pair-share/Table group sharing
	Wait time
	Discussion time: Lots of dialogue
	Students and Teachers use complete sentences
	Vocabulary usage (not dumbing it down)
	Reviews previous lesson/refers to previous meta-cognitive/personal application questions
	LESSON: Whole Group or Small Group
	States the objective clearly to students and provides an explanation of the objective
	Materials ready for usage
	Follows the scripted manual
	Appropriate vocabulary usage stressed in the lesson
	Asks a variety of higher order questions that relate to and extends the lesson
	Students respond in complete sentences
	Think/Pair/Share is evident throughout the lesson
	Wait time during the lesson evident
	Gives students an opportunity to explain responses/choices and their thinking
	Teacher determines the appropriate time for lesson closure
	If in small groups, lesson is still teacher directed
	CLOSURE – Reflection Time
	Reviews the purpose of the objective
	Revisits the essential question for further explanation/understanding
	Asks/discusses the personal application and meta-cognition questions
	Provides wait time and allows students to engage in discussion
	Pools students answers for reflection
	INFUSION
	Evidence of carryover into all subject areas regarding the five analysis skills and speaking and writing in complete sentences.
	COMMENTS:

The "Non-Negotiables" of Academic Rigor

Academic rigor is an essential characteristic of effective curriculum, instruction and assessment. Students learn when they are challenged to use the full range of their talents and intellectual abilities to address authentic and complex academic tasks in professional and real-life events. All students should have the opportunity to participate in qualitatively different academic environments that build upon their interests, strengths and personal goals. These environments should engage them actively and consistently in sophisticated investigations of materials, texts, interactive technologies and learning activities, requiring them to understand and apply advanced critical and creative processes.

Rigorous academic environments represent true communities of learning, encouraging both students and teachers to be risk-takers engaged in experimental, investigative and open-ended learning processes. Together, members of inquiry-based learning communities can utilize effectively their existing knowledge while striving to create new knowledge. In these rigorous learning environments, students accept greater responsibility for developing and applying a deep understanding of significant concepts, generalizations, essential questions and skills and procedures to problem finding and problem solving for which there are no predetermined limits. As a result of an education reflecting these "non-negotiables," students will become life-long learners and thinkers, capable of independent reflection, self-evaluation and reasoning.

Academic Rigor …

Has Qualitatively Different Academic Environments (More In-Depth, Complex and Abstract Concepts and Ideas)
Builds Upon Interests, Strengths and Personal Goals
Engages Consistently in Sophisticated Investigations of Materials, Texts, Interactive Technologies and Learning Activities
Employs Advanced Critical and Creative Processes
Embraces Teachers and Students as Risk-Takers in Experimental, Investigative and Open-Ended Learning Processes
Utilizes Effectively Existing Knowledge and Creates New Knowledge
Develops and Applies Deep Understanding of Significant Concepts, Generalizations and Essential Questions to Problem Finding and Problem Solving
Sets No Predetermined Limits
Creates Life-Long Learners and Thinkers Capable of Independent Reflection, Self-Evaluation and Reasoning

Rigor Rubric for Educational Programs

	Level Four	Level Three	Level Two	Level One
CURRICULUM	Advanced, sophisticated curriculum consistently builds upon and extends beyond a standard course of study through universal concepts, complex levels of generalizations and essential questions from multiple perspectives within the topic. Students consistently engage in multiple, complex, thought-provoking and ambiguous texts/materials that challenge their thinking and feelings.	Curriculum occasionally attempts to build upon and to extend beyond a standard course of study through universal concepts, generalizations and essential questions from a few perspectives within the topic. Students occasionally engage in multiple complex, thought-provoking and ambiguous texts/materials that challenge their thinking and feelings.	Curriculum focuses on multiple discrete concepts and ideas with little if any articulated connection or overt relationship, particularly as they relate to the design and structure of a standard course of study rather than unifying concepts, generalizations and essential questions. Students rely primarily on one or two textbooks that may or may not be provided by the instructor.	Curriculum develops around topic(s) and exploration occurs through activities. Student outcomes lack articulation. A superficial attempt exists to provide rigor through quantity rather than quality. An over reliance on the textbook as the predominant curriculum is evident. Readings superficially address the topic.
ASSESSMENTS	Multiple types of assessment are used consistently to monitor students' growing understanding of increasing complexity of materials, ideas, issues, and problems encountered throughout the year. The teacher regularly provides for students' daily reflections on their understanding and growth within advanced curricular studies.	Assessments are ongoing, focused and evident through the complexity of materials, ideas, issues, and problems encountered within curricular studies throughout the year. The teacher frequently provides for reflections on students' understanding. and growth within curricular studies.	Assessments are focused and evident through some materials encountered throughout the year. The teacher sporadically provides for reflections on students' understanding and growth within curricular studies.	Assessments reflect a "one shoe fits all" approach with an emphasis upon end-of-unit tests comprised largely of short answer, multiple choice, true/false and/or fill-in the blank responses at the conclusion of unit(s). Little or no opportunity exists for the learner to refine skill(s) or major ideas/concepts.
INSTRUCTION	Instructional delivery of the teacher employs a large canon of research-based advanced instructional strategies and methods within curricular models. Opportunities for understanding the "whys" through scholarly dialogue/discussions are regularly provided and students reflect daily on concepts, complex levels of generalizations and essential questions encountered with rigorous texts. Teacher consistently probes students to deepen meaning and to provide rationale for positions explored.	Instructional delivery of the teacher uses multiple instructional strategies and methods within lessons and sometimes larger curricular models of study to understand complex and sophisticated materials/texts. Opportunities for understanding the "whys" through discussions are frequently provided and students frequently reflect on concepts, generalizations and essential questions encountered with rigorous texts.	Instructional delivery of the teacher uses one or two instructional management strategies (learning and/or interest centers, learning styles, etc.) within lessons to understand complex and sophisticated materials/texts. Opportunities for understanding the "whys," the meta-cognition of such strategies may or may not be addressed.	Instructional delivery of the teacher assumes students will independently construct meaning from sophisticated materials/texts through appropriate mental models (processes/graphic organizers). Teacher provides little, if any support and is primarily engaged in delivering content and coverage.

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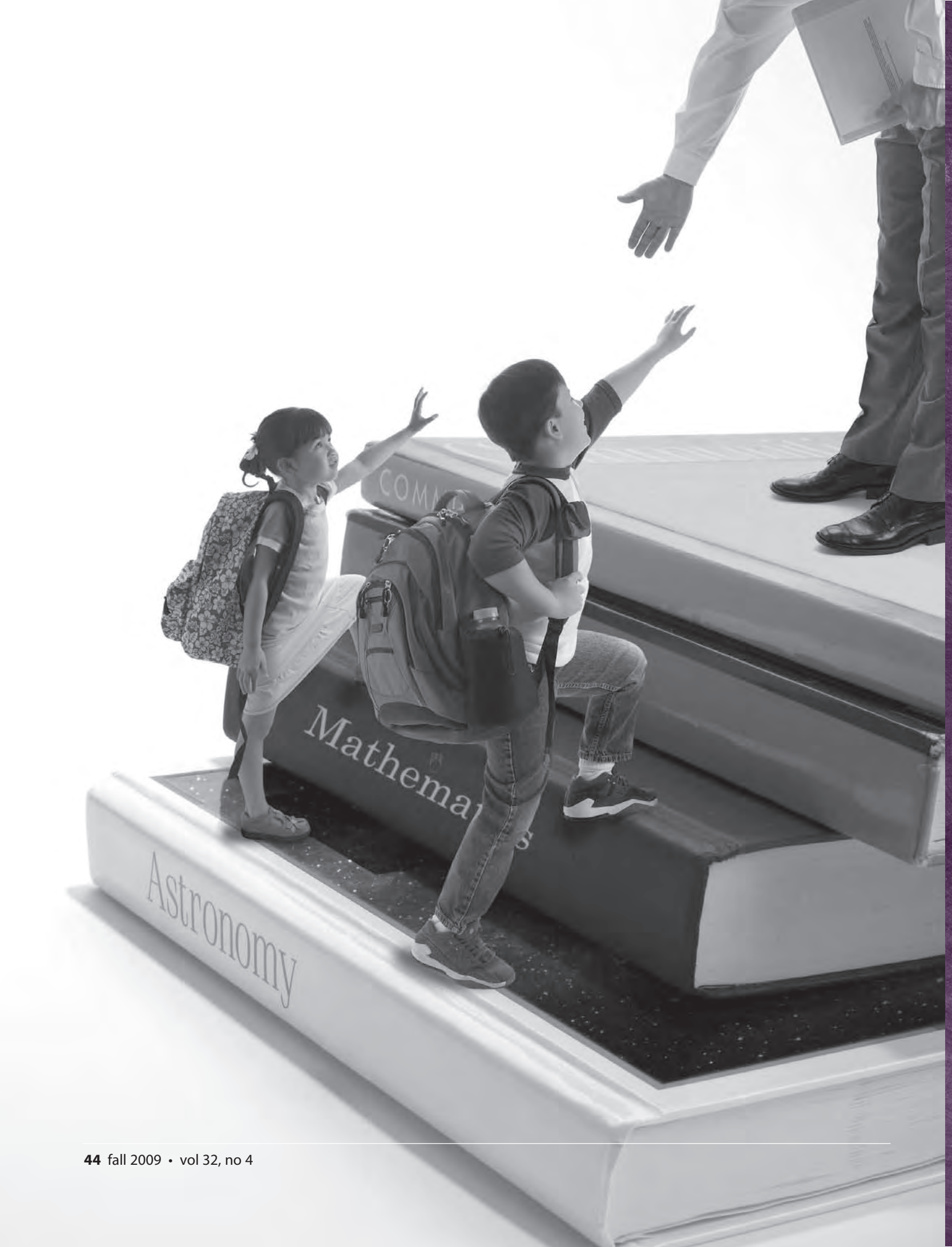

Astronomy

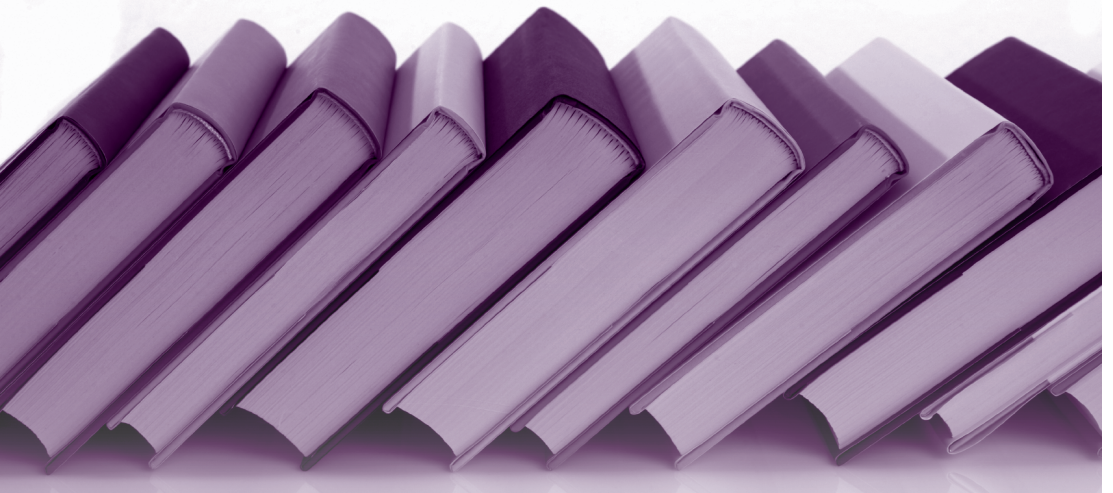
THE NONNEGOTIABLES OF ACADEMIC RIGOR

by Melissa N. Matusevich, Katherine A. O'Connor, and Mary "Valorie" P. Hargett

Academic rigor is not a new concept and has long been advocated as an important component of educational programs for gifted learners. More than 70 years ago, John Dewey (1938; Archambault, 1964) first called for education that included rigorous content, and in 1936 Leta Hollingworth created rigorous curriculum for gifted children in her New York City School (Klein, 2002). The conversation about rigor continues to the present day. Recently, Pfeiffer (2003) reported that increased academic-content rigor is one focus of current research in gifted education, so much so that Wagner (2006) referred to rigor as "the new reform de jour" (p. 28). Even students themselves recognize the need for academic rigor. According to a survey conducted by Peter D. Hart Research Associates in August of 2005, almost 90% of high school students stated that they would work harder if more was expected of them and less than 33% said their school set high academic expectations. The survey demonstrated that most students would favor ideas that "might add some hassle to their life, such as more rigorous graduation standards and additional high-stakes testing" (Associated Press, 2005, para. 2).

Cooper (1995) stated:

> The acid test for appropriate curriculum for bright students is "Could or would every student at this age commit to this type of study that is long-range, rigorous, filled with trial and error, and has the potential to contribute significantly to extant knowledge in a given field?" When the answer is "yes," the curriculum is unequivocally defensible; it meets all the criteria for creative production." (p. 69)



When they are challenged students learn to use the full range of their talents and intellectual abilities to address authentic and complex academic tasks in professional and real-life events.

Kaplan (2004) noted that if educators hold the belief that "gifted students need to have learning experiences that are academically rigorous" then we must provide a specific definition for "academic rigor" (p. 124). One way to do this, according to Kaplan, is by "developing criteria and rubrics to define academically rigorous curriculum for gifted students" (p. 125). Despite the fact that rigor is generally advocated for gifted learners, how it should be measured is not well defined. This lack of specificity in defining academic rigor often makes it difficult to determine if curriculum for gifted learners met their learning needs. With this need in mind and in response to the challenge of the North Carolina State Board of Education (NCSBoE) Mission Statement goal that every student be provided with rigorous and relevant core curriculum reflecting what students need to know and demonstrate in a global 21st-century environment, the Academically or Intellectually Gifted (AIG) Program at the North Carolina Department for Public Instruction (NCDPI) set out to create a rigor rubric. It was believed that such a rubric should be applied to educational programs and instruction to determine if an appropriate level of challenge is evident. As a result, a rigor rubric was developed. Following is a description of how the rubric was developed as well as how it has been utilized to analyze the appropriateness of curriculum and instruction for gifted learners.

Development of the Rigor Rubric

On May 5, 2005, the NCSBoE passed into law High Student Performance Bill F16 requiring that all students graduate from a rigorous academic program that equips them with the knowledge, skills, and dispositions necessary to succeed in both postsecondary education and 21st-century careers and to be participating, engaged citizens. The NCSBoE moved to establish a committee headed by Valorie Hargett, North Carolina State Consultant for Academically or Intellectually Gifted (AIG), that developed these policy recommendations about academic rigor:

- Academic rigor and relevance are based on established expectations that ensure that all students develop the capacity to master content that is complex and challenging.
- In every subject, at every grade level, instruction and learning must include commitment to a knowledge core and application of that knowledge core to solve complex and real-world problems.

Believing that gifted pedagogy could and should be used with all students, especially with the demands of the 21st century, the committee began by defining rigor. Academic rigor is an essential characteristic of effective curriculum, instruction, and assessment. When they are challenged students learn to use the full range of their talents and intellectual abilities to address authentic and complex academic tasks in professional and real-life events. All students should have the opportunity to participate in

qualitatively different academic environments that build upon their interests, strengths, and personal goals. These environments should engage them actively and consistently in sophisticated investigations of materials, texts, interactive technologies, and learning activities, requiring students to understand and apply advanced critical and creative processes. Rigorous academic environments represent true communities of learning, encouraging both students and teachers to be risk-takers engaged in experimental, investigative, and open-ended learning processes. Together, members of inquiry-based learning communities can utilize effectively their existing knowledge while striving to create new knowledge. In these rigorous learning environments, students accept greater responsibility for developing and applying a deep understanding of significant concepts, generalizations, essential questions, and skills and procedures to problem finding and problem solving for which there are no predetermined limits. An education reflecting these "nonnegotiables," will result in students becoming lifelong learners and thinkers, capable of independent reflection, self-evaluation, and reasoning.

Next, using the above criteria, the committee developed a rubric that can be applied to determine if a lesson or unit is, indeed, rigorous. The goal was to provide local educational agencies across North Carolina with a common language and road map that would help teachers and administrators view where they are on the rigor journey and to define the next steps they need to take as they develop and revise programs. Underpinning the rubric's development was the belief that gifted education must change and reflect the paradigm shift from identifying gifted students to identifying gifted behaviors in all students. In addition, the committee believed that teachers must design learning environments that focus on developing or "growing" these intelligent behaviors in all children if our country is to remain a leader in the 21st century.

The rubric committee focused on the main areas for which educators are held accountable—curriculum, instruction, and assessment. As shown in Figure 1, they defined four levels at which an educator may be functioning. The baseline—the rubric's Level One—focuses on what the rubric developers had witnessed and documented in more than 100 onsite, state-conducted, K–12 AIG program reviews over a 3-year span in public school districts across North Carolina and what they believed would be found in the majority of classrooms across the nation. The subsequent rubric levels are on a continuum from less to more rigorous. At Level Four, appropriate rigor is defined, a goal that educators should aspire to reach (see Figure 1).

To provide rigorous experiences for her students, a teacher should begin by focusing on curriculum, instruction, or assessment by analyzing her practice in one area using the rubric as her guide. Once the teacher has determined where she is functioning, she can increase rigor by moving to the next level on the rubric. As an example, if a teacher analyzes her practice in assessment as being at Level One, then moving to Level Two would naturally be the next step with the ultimate goal of reaching Level Four.

Under Hargett's leadership, the final rubric was disseminated for review and comment. Feedback from national and state curriculum experts both in gifted and regular education (see Appendix for a list of reviewers) was instrumental in revising the rubric. Additionally, the rubric was distributed throughout the state to those involved with gifted education, and resulting feedback was positive. When the process was concluded, the rigor rubric was adopted by the state AIG program for use in North Carolina. Six regional training sessions about the use and benefits of the rigor rubric were then conducted. As a result of these trainings, many school districts expanded the rubric's use. Gifted education specialists from Moore County, NC, twice presented their work about the rigor rubric at the Association for Supervision and Curriculum Development (ASCD) national conference. Another school district that chose to use the rigor rubric extensively was Wake County, the North Carolina school district with the largest population of identified gifted students. Wake County Public Schools has done extensive work supporting their teachers in designing rigorous curriculum for both regular and gifted classes using the rubric as a guide. The rubric also has been extremely helpful in the development of curriculum for the Bright IDEA (Interest Development Early Abilities) project, a $2.4 million Javits program funded to train K–2 teachers to develop rigorous concept-based curriculum for underserved populations. Finally, the rigor rubric became one of many tools used in the development of the North Carolina Honors Course Rubric (Hargett, 2007). Thus, the rigor rubric has impacted K–12 educational design for rigorous curriculum and classroom environments throughout North Carolina. As evidenced in the above examples, the rigor rubric has been and continues to be a highly successful and useful tool for educators to assess where they are on the rigor journey and to help them plan their next steps.

Application of the Rigor Rubric

Concurrent to the development of the rigor rubric, North Carolina's

	LEVEL FOUR	LEVEL THREE	LEVEL TWO	LEVEL ONE
CURRICULUM	Advanced, sophisticated curriculum consistently builds upon and extends beyond a standard course of study through universal concepts, complex levels of generalizations, and essential questions from multiple perspectives within the topic. Students consistently engage in multiple, complex, thought-provoking, and ambiguous texts/materials that challenge their thinking and feelings.	Curriculum occasionally attempts to build upon and to extend beyond a standard course of study through universal concepts, generalizations, and essential questions from a few perspectives within the topic. Students occasionally engage in multiple complex, thought-provoking, and ambiguous texts/materials that challenge their thinking and feelings.	Curriculum focuses on multiple discrete concepts and ideas with little if any articulated connection or overt relationship, particularly as they relate to the design and structure of a standard course of study rather than unifying concepts, generalizations, and essential questions. Students rely primarily on one or two textbooks that may or may not be provided by the instructor.	Curriculum develops around topic(s) and exploration occurs through activities. Student outcomes lack articulation. A superficial attempt exists to provide rigor through quantity rather than quality. An overreliance on the textbook as the predominant curriculum is evident. Readings superficially address the topic.
INSTRUCTION	Instructional delivery of the teacher employs a large canon of research-based advanced instructional strategies and methods within curricular models. Opportunities for understanding the "whys" through scholarly dialogue/discussions are regularly provided and students reflect daily on concepts, complex levels of generalizations, and essential questions encountered with rigorous texts. Teacher consistently probes students to deepen meaning and to provide rationale for positions explored.	Instructional delivery of the teacher uses multiple instructional strategies and methods within lessons and sometimes larger curricular models of study to understand complex and sophisticated materials/texts. Opportunities for understanding the "whys" through discussions are frequently provided and students frequently reflect on concepts, generalizations, and essential questions encountered with rigorous texts.	Instructional delivery of the teacher uses one or two instructional management strategies (learning and/or interest centers, learning styles, etc.) within lessons to understand complex and sophisticated materials/texts. Opportunities for understanding the "whys," the metacognition of such strategies, may or may not be addressed.	Instructional delivery of the teacher assumes students will independently construct meaning from sophisticated materials/texts through appropriate mental models (processes/graphic organizers). Teacher provides little, if any, support and is primarily engaged in delivering content and coverage.
ASSESSMENTS	Multiple types of assessment are used consistently to monitor students' growing understanding of increasing complexity of materials, ideas, issues, and problems encountered throughout the year. The teacher regularly provides for students' daily reflections on their understanding and growth within advanced curricular studies.	Assessments are ongoing, focused, and evident through the complexity of materials, ideas, issues, and problems encountered within curricular studies throughout the year. The teacher frequently provides for reflections on students' understanding and growth within curricular studies.	Assessments are focused and evident through some materials encountered throughout the year. The teacher sporadically provides for reflections on students' understanding and growth within curricular studies.	Assessments reflect a "one shoe fits all" approach with an emphasis upon end-of-unit tests comprised largely of short answer, multiple choice, true/false, and/or fill-in-the-blank responses at the conclusion of unit(s). Little or no opportunity exists for the learner to refine skill(s) or major ideas/concepts.

Figure 1. Rigor rubric, 2006. Reprinted with permission from the North Carolina Department of Public Instruction.

Department of Public Instruction altered a state policy for gifted education returning gifted licensure classes to institutions of higher education. Effective July 1, 2006, the North Carolina Licensure Section in the Human Resource Management Division no longer accepted field-based courses toward meeting requirements for AIG add-on licensure. In other words, local school districts were no longer able to offer their teachers courses in which they could earn credits toward licensure for teaching gifted students. For more consistency, all courses required for gifted licensure in North Carolina would be taught at 4-year institutions of higher

education. As a result, 12 hours of college credit became a requirement for earning a license to teach gifted learners. On August 23, 2005, all AIG Directors and Coordinators were notified of this change.

One institution of higher education, East Carolina University, quickly met this challenge. Through a blended approach of online and face-to-face instruction, East Carolina led the way in helping teachers obtain gifted licensure. In response to this new state policy, the Department of Curriculum and Instruction at East Carolina University created a four-course sequence available for students choosing to earn the AIG licensure as a strand in their Master of Arts in Education program in elementary education or by enrolling in the courses as non-degree-seeking students. All of the courses required for the AIG licensure program at East Carolina University are taught online, with the exception of two face-to-face weeks during which teachers are involved in a summer camp working directly with gifted elementary and middle school children. Faculty members Matusevich and O'Connor, who planned the program, quickly realized that an important component of the courses should be the application of the recently developed rigor rubric. As they planned the four courses as seen in Figure 2, they determined that the rubric should be introduced and applied in the second course when students analyze gifted units for academic rigor and then used again in the third course when students create and analyze their own rigorous instructional units.

To effectively utilize the rubric in graduate coursework, Matusevich and O'Connor created questions based on the rubric (see Figure 3). Graduate students use these questions as a tool for analyzing the rigor of a lesson or unit. The first application of the

Course 1
SPED 6104: Introduction to Gifted Education (online with 1 week face-to-face): An introduction to the education of gifted students emphasizing definitions, characteristics, theories of intelligence, and methods of identification.

Course 2
SPED 6401: Methods & Materials in Gifted Education (online): An in-depth investigation of the materials, programs, and theories of educating the gifted.

Course 3
SPED 6402: Differentiated Curriculum for the Gifted (online): An in-depth study of student and program assessment and the development of differentiated curricula for gifted students.

Course 4
SPED 6403: Practicum in Gifted Education (online with 1 week face-to-face): Actual classroom experience with gifted children. Students will be responsible for planning and implementing instructional programs.

Figure 2. Sequence of courses for gifted education licensure at East Carolina University.

Questions Derived From the Rigor Rubric

1. In what ways does this lesson or unit have qualitatively different academic environments?
2. In what ways does this lesson or unit focus on more in-depth, complex concepts and ideas?
3. In what ways does this lesson or unit build upon students' interests, strengths, and personal goals?
4. In what ways does this lesson or unit engage students consistently in sophisticated investigations?
5. In what ways does this lesson or unit employ advanced critical processes? (Critical processes include finding, inventing and sharing solutions to real-world problems as well as identifying problems [problem finding], determining accuracy, analyzing alternate solutions, making decisions, etc.)
6. In what ways does this lesson or unit employ advanced creative processes? (Creative processes include purposeful analysis, imaginative idea generation, and critical evaluation.)
7. In what ways does this lesson or unit employ investigative and open-ended learning processes? (These include exploration, experimentation, etc.)
8. In what ways does this lesson or unit encourage students to be risk takers?
9. In what ways does this lesson or unit utilize existing knowledge and require students to create new knowledge?
10. In what ways does this lesson or unit utilize and apply significant concepts and essential questions to problem finding and problem solving?
11. In what ways does this lesson or unit set no predetermined limits?
12. In what ways does this lesson or unit foster lifelong learning?
13. In what ways does this lesson or unit foster thinkers capable of independent reflection?
14. In what ways does this lesson or unit foster student self-evaluation?

Figure 3. Questions derived from the rigor rubric.

Reprinted with permission from Melissa N. Matusevich and Katherine A. O'Connor, East Carolina University.

Definition	Examples
Teachers prepare and provide students with multiple opportunities to do the following:	
Has qualitatively different academic environments (more in-depth, complex, and abstract concepts and ideas).	(a) To identify, develop and nurture the growth and understanding of Habits of Mind (behaviors and dispositions) through curriculum, instruction, and assessment that prepare students to live in a complex society where solutions are not immediately available (e.g., today's economic recession). (b) To extend and enrich through a conceptual lens standard courses of study by "unpacking" the cognitive levels of the standards using the Revised Bloom's Taxonomy (RBT).
Builds upon interests, strengths, and personal goals.	(a) To examine beliefs about the importance of different types of knowledge, beliefs about the efficacy of these types of knowledge, and the emotions associated with learning these types of knowledge from *The New Taxonomy of Educational Objectives* by Robert Marzano. (b) To provide opportunities for students to express why certain interests are important and to support students in checking their logic in reasoning. (c) To provide opportunities for students to explore their emotional response to topics, ideas, concepts, and/or procedures. (d) To provide opportunities for students to explore their interests in new materials, ideas, concepts, and/or procedures, thus motivating them to engage in the learning process.
Engages consistently in sophisticated investigations of materials, texts, interactive technologies, and learning activities.	(a) To create a meaningful and purposeful balance between informational texts and literature through interactive technologies and learning tasks. (b) To create fluid "work teams" engaging learners in meaningfully and purposefully designed work tasks that replicate the 21st-century workplace. (c) To develop strong interdisciplinary courses/units of study to reflect 21st-century thinking that is more robust and complex than 20th-century modes of distributing and receiving information.
Employs advanced and critical and creative processes.	(a) To create and evaluate learning tasks that challenge students to demonstrate fluency, elaboration, flexibility, and originality in their thinking. (b) To identify specific, nonnegotiable lifelong thinking skills and processes so that all students demonstrate mastery through high level cognitive learning tasks (e.g., strategic planning, creating new products, decision making, resolving discrepancies, clarifying ambiguities, conducting research to test theories and hypotheses, and ameliorating polarities).
Constructs investigative and open-ended learning processes.	(a) To develop differentiated learning tasks providing multiple points of entry for all students to explore new investigations, experience more sophisticated levels of knowledge, and create new essential questions based on the outcomes of the selected investigations (e.g., *Six Facets of Understanding* by Grant Wiggins and Jay McTighe). (b) To create opportunities for students to explore how knowledge is effectively used to make decisions, solve problems, generate and test hypotheses, and investigate using appropriate criteria for justification of potential outcomes.
Embraces teachers and students as risk-takers.	(a) To create classroom environments that celebrate responsible risk-taking where students experience both successes and failures and view this as a normal part of learning and building for future successes. (b) To model teacher and student thinking in order for all participants involved to understand how they and others approach similar problems from different perspectives (e.g., thinking maps, graphic organizers, journals, and presentations). (c) To identify, develop, and assess social skills for working in collaborative "work" teams.
Utilizes effectively existing knowledge and creates new knowledge.	(a) To provide individual and group opportunities for students to share existing knowledge on a topic that supports them in transferring the knowledge to unique and novel situations, thus creating new knowledge (e.g., thinking maps, graphic organizers, journals and presentations). (b) To identify, nurture, improve, and assess specific dispositions and behaviors that support students in exploring while remaining open to continuous learning in order to create new knowledge (e.g., risk-taking, persisting, managing impulsivity, thinking flexibly, questioning and posing problems).

Definition	Examples
Develops and applies deep understanding of significant concepts, generalizations, and essential questions to problem finding and problem solving.	(a) To "unpack" the standard courses of study and select content to identify major concepts, principles, theories, issues, perspectives, assumptions, and paradoxes that will be utilized in developing learning tasks through a conceptual lens. (b) To provide opportunities for students to move from a knowledge perspective ("covering" the materials) to a conceptual perspective ("uncovering" of ideas, concepts, and generalizations) and to understand the synergy between these two different types of knowledge.
Sets no predetermined limits.	(a) To create classroom environments seeking to engage students in complex and high levels of generative thinking that create 21st-century lifelong learners and self-reflective thinkers. (b) To construct opportunities for students to specify personal and professional goals and for monitoring these goals for process, clarity, and accuracy.
Creates lifelong learners and thinkers capable of independent reflection, self-evaluation, and reasoning.	(a) To develop two-dimensional rubrics for assessing the growth and improvement in designated Habits of Mind. (b) To provide opportunities through curriculum, instruction, and assessment for students to habituate and deepen their understanding on the importance of the 16 Habits of Mind (Art Costa and Bena Kallick). (c) To provide support for students through teacher modeling in developing a willingness and openness in receiving feedback in order to become a lifelong learner.

Figure 4. Concrete examples for questions derived from the river rubric.

rubric entails students creating a rigorous lesson based on the tenants of *Understanding by Design* (Wiggins & McTighe, 1998). After completing the lesson, students critically evaluate it by answering the questions in Figure 3. Students then revise lessons as needed in order to ensure appropriate rigor. In the next step, students apply the rigor questions to units of study based on three models of gifted education: Carol Ann Tomlinson's Parallel Curriculum Model (Tomlinson et al., 2002), Joyce VanTassel-Baska's Integrated Curriculum Model (VanTassel-Baska, 2003), and Renzulli's Schoolwide Enrichment Model (Renzulli & Reis, 1985). The professors provide exemplar units for each of the three gifted education models, and using the questions, students analyze the units for academic rigor.

In the subsequent course, students create an academically rigorous unit that they teach to gifted students during the summer practicum experience in the fourth course. The students again apply the rubric questions to their own work. They make revisions to their units as needed to ensure that appropriate levels of rigor are provided when they teach them. Postcamp survey results indicate that more than 95% of the parents (n = 136) believe that the goal of providing rigorous curriculum has been achieved.

Despite positive results, the graduate students report that they sometimes are unclear as to how to interpret the questions in Figure 3 when they are asked to apply them. Because of this, the authors have provided concrete examples for the questions derived from the rigor rubric as shown in Figure 4. The examples are not content specific; teachers in any content area can readily apply the rigor rubric to the lessons and units they create and teach.

Discussion and Future Directions

As research clearly demonstrates, academic rigor is important in today's educational landscape (e.g. Kaplan, 2004; Pfeiffer, 2003; VanTassel-Baska, 2003; Wagner, 2006). Kaplan (2004) endorsed the need for the development of a rubric to determine academic rigor that can be widely implemented. North Carolina recognized and met this need by developing a rubric for academic rigor that can be applied in the areas of curriculum, instruction, and assessment. In gifted education courses at East Carolina University, the rigor rubric has been successfully utilized and has proved to be an effective tool for determining whether student-created curriculum, instruction, and assessment are appropriately rigorous. The practical application of the rubric in the context of graduate classes in gifted education as applied to instructional units taught during an annual gifted camp has resulted in positive feedback from campers' parents. Continued use of the rubric at East Carolina University will be ongoing. Based on the experiences described here, learners would benefit from educators' wider use of the rubric. University professors can introduce the rubric and have their students use it to evaluate instructional materials they are

creating. Practicing teachers can utilize the rubric to ensure that their lessons and units are appropriately rigorous. They can begin by assessing instructional materials and work to move along the rubric continuum from Level One to Level Four. Administrators also play an important role; they can provide professional development opportunities so teachers can learn how to effectively use the rubric. An ongoing and systemic process with careful monitoring of the rubric's use is warranted. Finally, further research into the use of the rubric and application outcomes are recommended. GCT

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Appendix
Rigor Rubric Reviewers: State or National Curriculum Experts

Dr. John Brown, Educational Consultant
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Dr. Art Costa, Emeritus Professor of Education
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Wake County Public Schools, NC

Ellen Pritchett, K–12 Coordinating Teacher for Curriculum and Instruction
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College of Education
Department of Special Education and Child Development
University of North Carolina at Charlotte

Dr. Robert Swartz, Emeritus Faculty
University of Massachusetts at Boston
Director, National Center for Teaching Thinking
Boston, MA

Developing 21st Century Skills, Knowledge and Dispositions in Students Coordinating Early Intervening Services (CEIS)

Bright IDEA Training Model for CEIS - Executive Overview

CEIS Goal: To intervene early with students who need additional academic and behavioral assistance in a general education environment by developing their skills, knowledge and dispositions through a research-based curriculum model, Project Bright IDEA/Bright Tomorrow. (Training regular classroom teachers using Federal Disproportionality Funds.)

Exceptional Children Goals: (Training Special Education Teachers)

1. Prepares children to exit EC classes and perform at successful academic levels
2. Supports the Reading and Math Foundations courses and moves students to a deeper level of understanding
3. Supports and Enhances Positive Behavior Models.

Professional Development: Options Based on Needs of Districts and Teachers

- **Two day overview/training on philosophy, pedagogy and data on** *Developing 21st Century Skills, Knowledge and Dispositions in Students* (Beyond Labeling)
- **Four clusters of training –**
    - **HOM/GIBs Training (three days)**
    - **MI/Learning Styles (three days)**
    - **Thinking Skills (Beginning and Advanced) (four days)**
        - **Beginning Thinking Skills – Parks/Black**
            - **Grades - K-2 (Overview ½ day and ½ day teacher designing lessons)**
                - **Follow-up (Two separate days (two months between follow up sessions)**
            - **Grades – 3-5 Parks/Black – (Developmental/Infusion) (Two days**
                - **Follow-up (Two separate days (two months between follow up sessions)**
        - **Advanced Thinking Skills – (Three days)**
            - **Middle of Implementation – ID High Flyers at second follow up**
    - **Curriculum Writing Institute (four days)**
- **Four clusters of One/two day follow-up training – Consultant and/or Principal, School-based Leadership and Designated Central Office Leadership may conduct. (Two hours of training for leadership after each PD.)**Note: Options, Timeline and Training Costs are determined by the needs of the districts and the number of participants.

Project Bright IDEA Results and Data

Bright IDEA had a significant independent evaluation and its results qualify for the definition of Moderate Evidence under US Department of Education guidelines. Bright IDEA 2 was highly focused – addressing a specific aspect of a critical national problem (achievement gap among students) at a foundational period (K-2) and an under-representation of minority students in honors, advanced placement and gifted programs. Second, it utilized a holistic approach that combined a focus on multicultural experiences of students with teaching-learning-assessing processes in both mathematics and literacy. This was an advantage because reading and writing are critical for conceptual learning in mathematics and because such combinations capitalized on the aspect of mathematics as language. Moreover, this combination was consistent with the multiple intelligences and gifted behaviors view on which the project draws—students can bring forth their strong areas of interests and strengthen them. Third, the project utilized and explored the impact of two approaches to teacher education—top-down (first summer institute) and bottom-up (buddy-pairs, training over the school year and second summer institute) that heretofore were typically used in separation.

This combination, particularly the buddy-pair method stresses reflection on teaching strategies as the essential component for teacher development as reflective practitioners. Fourth, the project included a longitudinal, follow-up component that will allow studying the long-term impact of the program on student achievement. Fifth, the project added at least two new research instruments that can be used elsewhere (student mathematics problem-based questionnaire and teacher disposition questionnaire). Sixth, the project included a rigorous evaluation plan and an extensive dissemination plan. Thus, it created venues for a flow of information among all stakeholders of nurturing gifted students' development (parents; teachers; local districts; state administrators; researchers; and policy makers).

Javits Research Results *Project Bright IDEA 2: 2004-10*

Project Bright IDEA 2 met the goals of the Javits Research by significantly increasing the identification of the number of academically gifted students from underrepresented populations and demonstrated the critical role that teacher enhancement can play in promoting these students' achievements. It demonstrated that *Bright IDEA* is a research model that has the potential for increasing achievement for all students by focusing on nurturing their academic talent and by re-training teachers on engaging their students in a rigorous concept-based curriculum.

The research for Bright IDEA was carried out in twelve school districts (urban, rural, small towns, large and small); twenty-eight Title 1, very diverse schools; three hundred teachers and principals in the Bright IDEA treatment and an equal number of teachers in the control group and impacted approximately 10,000 students over the five year grant. Each school had 4 teachers in each grade level; 2 teachers from each of the three grade levels in the treatment and control group. Each of three cohorts of students was followed for three years, with testing for gifted programs at the end of the three years. Graduates of K-2 Bright IDEA teaching were given the Cognitive Abilities Test and or IOWA Test of Basic Skills at the end of second grade.

Thousands of teachers and students are now reaping the benefits of the Bright IDEA Model as districts expanded across more schools and classes, continuing after they were out of the Javits-funded research project. There is considerable evidence that the districts are seeing

positive changes in the culture of the schools; the enthusiasm and support of teachers and principals for more training and better performance on end of grade tests and meeting Annual Yearly Progress (AYP). Some schools met AYP for the first time after training all of their teachers in the model. Bright IDEA is a model for addressing low performing schools to achieve AYP; improve access for engaging curriculum for students with high learning needs; and provide teachers with current research pedagogy and practices aligned to the new Teacher Evaluation Instrument implemented in North Carolina during 2011.

Three measures were set forth to determine accomplishment of Javits Bright IDEA project goals: (1) Head Count of graduates of Bright IDEA in K-2 who are nominated for a school's gifted and talented program in the third grade; (2) The identified students' performances on a Math Problem-Based Questionnaire; and (3) Changes from pre- to post-intervention in teachers' responses to items of the Teacher Disposition Questionnaire. The measured results for Bright IDEA are from the K-2 research program. However, there are results from the pilot schools and schools that have expanded the project and other results and findings that have been reported anecdotally and are important to consider for academic achievement.

Head count Data: The primary academic measure for Bright IDEA 2 is the percentage of students identified and placed in gifted programs. All Bright IDEA districts require a score from the Cognitive Abilities Test or the Iowa Test of Basic Skills plus other criteria based on the Local District's Plan for Gifted Programs in North Carolina. The head count results for second graders identified for gifted programs over the three years showed for 2006-2007, Bright IDEA Students 24%, Non BI 10%; for 2007-2008, Bright IDEA Students 26%, control group 10% and in 2008-2009, Bright IDEA Students 47%, control group 9%, all statistically significant with a significant magnitude in the differences.

No overall statistical differences concerning race or gender were found when gifted nominated/selected students were compared between Bright IDEA and non-Bright IDEA graduates; *however, substantial racial differences were found among counties.*

Math Problem Based Questionnaire: Both Bright IDEA and non-Bright IDEA students who were nominated and or identified for gifted programs still fell short of the expected level of performance in mathematics on the questionnaire. All of these students were administered the Questionnaire based on 2nd grade state standards, but included a major area where students had to explain their answers and even the students who were selected for gifted programs did not do as well as expected on explaining their answers. Other research has suggested that gifted children do not do well in this area; another area for consideration as funds permit to evaluate the data more closely with teachers. (Many of Bright IDEA elementary teachers indicated on the disposition questionnaire, prior to training, and verbally that they did not like math, were not good at math and *cited it as a reason for wanting to teach in elementary school*. *Perhaps this is a cumulative effect of the fact that they were all taught math, poorly, themselves*. The math training devoted to understanding the number system (place value and base 10 and base 4) proved complex for many of the teachers and some of the principals, but their comprehension improved after additional training.)

Educator Disposition Questionnaire: In all three cohorts, the Bright IDEA professional development model had an effect on teachers' dispositions, toward establishing consistency with the project's agenda. The most important aspect of Cohort-3 dispositions in, unlike the two previous cohorts, NO negative change was found (e.g. on teacher's view of parents' contribution

to educating their children as gifted)! Dispositions that were improved were found on 27 items out of the 50 items of the Disposition Questionnaire (22 for Cohort-2). Among those, 17 increases reached statistical significance (only 7 for Cohort-2). The goals of the project were accomplished in terms of teachers' adoption of key pedagogical principles including two areas of concern from the two previous cohorts: dispositions toward parents' role and the teacher's need to proactively partner with the parents. Teachers were able to work toward dispelling their fear of math and to better understand the number system.

Gifted Intelligent Behaviors (GIB's): Teachers observed students on selected behaviors and evaluated the students on rubrics. Data was collected on all students and were put in charts to show growth from a pre to post evaluation. This data was not part of the evaluation for the Javits research measures, but turned out to be a significant finding. Teachers said that recording student progress on the rubrics and the GIB's training helped them to evaluate students on multiple intelligences and academic skills.

The large number of teachers and students participating in Bright IDEA 2 supports strong external validity for the results cited. While the project strove to make random assignments of teachers within schools to the Bright IDEA program, the research design could not control absolutely for their assignment to treatment or control and therefore creates some challenges to strong internal validity for these results. Proposed new programs will address these issues by using randomization at the school level (appropriate for a whole school change model) and significantly adding to the overall number and type of schools participating in the program.

Historical perspective: The Javits Bright IDEA project (2004-2010) was designed in response to a legislative mandate in North Carolina with the main goal of increasing the number of students from under-represented Title 1 populations into academically challenging and gifted programs by changing the dispositions of teachers and principals toward those students.

Nurturing Programs are now part of the standards for district's gifted programs. Building on this legislation, a study conducted in 1999, by Darity, Castellino, and Tyson recorded the lack of diversity in North Carolina's academically or intellectually gifted (AIG) programs as well as in Honors and Advanced Placement (AP) classes. Like previous studies, Darity and his colleagues pointed out that enrollment of underrepresented populations in more advanced courses in high school is highly linked to early identification and nurturing of those students as Academically Gifted. However, AIG programs historically have been characterized by disproportionate under representation of black, Latino, and Native American students and, hence, contributed to the achievement gap. This facet of the achievement gap relates to the lack of preparation of teachers in identifying and nurturing academic and intellectual potential among learners from disadvantaged populations. Informed by the legislation and studies, the state, through the Area of Exceptional Children, launched a strategic plan for developing programs that led to the Javits grant. The goals of the Javits research were met with significant results on student gifted data and changing dispositions of teachers.

The *Overarching Javits Goal*: Increase students from underrepresented groups into gifted and talented programs via changing teachers' dispositions to wisely use curricula tailored to those students and to increase the quality of their meta-cognitive and cognitive skills through gifted pedagogy.

Table 2. Academically and Intellectually Gifted Identified from Title 1 Classes *

		Bright IDEA Students	Non-Bright IDEA Students
2004-2007	**Cohort-1**	**24%**	**10%**
2005-2008	**Cohort-2**	**46%**	**10%**
2006-2009	**Cohort-3**	**15%**	**10%**

*Based on third graders in 28 participating schools in districts in North Carolina.

Gifted Education Program Criteria, including CoGAT and IOWA Test of Basic Skills

Dispositions of Educators

The Educator Disposition Survey was administered prior to training and at the end of the formal training and implementation in the classroom. Teachers and principals changed their beliefs about a number of previously held positions on teaching students of high needs and as they implemented more of their strategies and practices from their training, they saw students rise to the level of expectations and over the three years became excited about the changes they were able to make in differentiating instruction for all of their students and in the significant performance outcomes of their students.

Table 3. **Educator Disposition Survey Results: Based on approximately 100 educators per cohort.**

Cohort-3 – 2006-09: 27 out of 43 survey items improved; 17 items reached statistical significance

Cohort-2 – 2005-08-: 22 out of 43 survey items improved; 12 items reached statistical significance

Cohort-1 – 2004-07: 17 out of 43 survey items improved; 7 items reached statistical significance

Significant changes in attitudes by educators: A decreased thinking of the school's wealth as a reason for student outcomes; Tendency to be flexible and experiment with the unknown; Effort to involve parents in what the teacher does with students in class; Love for teaching science; Responsibility for actively nurturing Gifted; Awareness of link between goal accomplishment and student interests; Establishment of high expectations of ALL students; View of giftedness as a function of nature, not nurture; and Increased understanding of the role of meta-cognition in student learning.

Building Thinking Skills (BTS), (Black and Parks):

The Building Thinking Skills Program was not evaluated separately but is the first Bright IDEA component used to train teachers and to immediately implement with all grades has proven to have immediate and observable results with students, as described by teachers and principals. In the Javits, the Beginning (K-1) and Building (2-3) Thinking Skills Programs are built on developing the analysis skills and critical thinking mental models for children that provides a

foundation for all children to be successful on assessments as they advance through grade levels.

The main purpose for selecting this program for Project Bright IDEA 2 for nurturing the potential in underrepresented populations was the evidence gathered from the Pilot Project in student achievement and teacher, student and parent satisfaction with the knowledge and advances that the children made in BTS vocabulary development and on the NC Literacy and Math Assessments. The Pilot Program was implemented in 2001-2004. Based on the pilot, the Javits Award was granted to further study how to "scale up" the program across a larger population of students. After three years in Project Bright IDEA 2, teachers reported that Building Thinking Skills is a critical set of skills and processes that have helped make Project Bright IDEA successful.

When the North Carolina Department of Public Instruction was searching for a K-2 Thinking Skills Program as part of a nurturing program, the recommendation was made to look at the model that Miami-Dade and Palm Beach Schools were using and to evaluate their results. After reviewing the literature on other programs, BTS was selected because of the achievement results in Florida Schools, the developmental nature of the program and the competence and quality of the authors and the respect for their work in the field of Critical Thinking Researchers.

Building Thinking Skills Nurturing Potential Goals:

1. Promotes foundational and advanced k-2 cognitive skills and mental models for acquisition of the Standards in the North Carolina Course of Study.
2. Builds a large, universal vocabulary of English usage across all the disciplines. (BBTS = 1000 universal words. BTS=2000 universal words.)
3. Develops and produces descriptive writing paragraphs by end of Kindergarten because of the focus on speaking and writing in complete sentences.
4. Teaches learners the Piagetian Theory to proceed from the concrete to semi-concrete to abstract verbal form.
5. Builds students' competence and confidence in taking assessments.
6. Provides success for all learners, including ESL and other Exceptionalities.

Skills and Processes

The five cognitive skills (describing, finding similarities and differences, sequencing, classifying and forming analogies) outlined in the program are research-based on the relevance and prevalence in academic disciplines and found on Standardized Tests. These analysis skills are required in all content areas and are all aligned with the Standards in the North Carolina Course of Study. Building Thinking Skills Programs teaches a rigorous lesson through the content lessons as children move beyond the Figural and Concrete activities. The lessons are integrated into local curriculum and pacing guides. The BTS lessons should be taught when the teachers are introducing new content or reviewing standards. This program can be adapted to meet local initiatives and used as another high-level resource for teaching critical thinking. In both figural and verbal strands, exercises are sequenced in the order that a developing child learns: cognition, evaluation and convergent production processes. The processes for all activities include: Select, Explain and Supply—all three processes provide an excellent strategy for doing tasks and activities for any lesson.

Training Approach

The training can be conducted in a half-day session on each of the levels to help teachers and administrators understand how to use the Teacher Manuals and how to teach the lessons. The training that has been implemented, as a result of Project Bright IDEA 2, now includes one half-day for the K-1 teachers with model lessons demonstrated and a half-day for 2nd grade teachers with model lessons. This training requires that the teachers read and understand the Teacher's Manual and that they use the recommended methods of instruction for the students. This training does not take the place of follow-up classroom visits by mentors, principals and curriculum specialists to assist with support and additional training. Mentors from Bright IDEA 2 can provide on-site classroom or school visits to assist teachers with strategies for task rotations and model lessons, when requested.

Individual Learning Needs

The BTS materials, when used appropriately, provide the teacher with built-in high level content strategies for meeting the individual needs of all children, including those identified as Exceptional Children. Some children will be able to move through the lessons quickly or may not need some of them at all. ESL children and those with learning disabilities or exceptionalities have been highly successful with BTS and in the pilot program--the gap was closed for these populations. Bright IDEA 2 districts continue to show evidence that all children are highly successful with this program. Identified gifted children can move beyond these lessons into thinking skills infused into content using gifted methodologies. These five analysis skills and strategies are also infused into subject area lesson plans and the concept based curriculum units developed by teachers. This program provides teachers with guidance on differentiating instruction for all children. For data on all populations from Project Bright IDEA 1, the pilot program, see www.aagc.org.

Summary

Building Thinking Skills is internationally recognized as superior in the field of cognitive-based critical thinking research. This program is one-of-a-kind program for K-2 children especially, even though it is a program for K-12 and materials are available for all grade levels. Project Bright IDEA 2, under dissemination of the Javits Research, has expanded the project across many districts based on principals, teachers and parents requesting it for all of the students in the Cohort schools. Much of the evidence to support expansion has been through observations and test scores, including high scores on the IOWA's. Building Thinking Skills is aligned with the Cognitive Abilities Test (CoGAT, which is used in many districts for identification of students for gifted programs. For truly understanding the program, a classroom observation is highly recommended.

Project Bright IDEA has been scaled-up to K-5 grades in some of the research districts and uses the Thinking Skills materials in the additional grades, 3-5. Teachers have reported that students are responding academically on improved test scores to the higher levels of vocabulary and abstract problems in the higher levels of BTS.

Results from the Pilot Bright IDEA 1 and the Javits research Bright IDEA 2 show that students improve on state tests when a district implements the Thinking Skills Program.

U.S. Department of Education
Grant Performance Report Cover Sheet (ED 524B)

OMB No. 1890-0004
Exp. 02/28/2011

Check only one box per Program Office instructions.

[ ] Annual Performance Report [ ] Final Performance Report

General Information

1. PR/Award #: S206A040057 2. Grantee NCES ID#: _____

(Block 5 of the Grant Award Notification - 11 characters.) *(See instructions. Up to 12 characters.)*

3 Project Title: Project Bright IDEA

(Enter the same title as on the approved application.)

4. Grantee Name *(Block 1 of the Grant Award Notification.):* North Carolina Department of Public Instruction

5. Grantee Address *(See instructions.)* 301 North Wilmington Street, Raleigh, NC 27601

6. Project Director *(See instructions.)* Name: Mary Watson Title: Director, Exceptional Children Division, NCDPI

Ph #: (919) 807 - 3969 Ext: Fax #: (919) _807_ - _3243

Email Address: mwatson@dpi.state.nc.us

Reporting Period Information *(See instructions.)*

7. Reporting Period: From: ___07__/_1___/__2004_____ To: _06____/_30____/_2010__ (mm/dd/yyyy)

Budget Expenditures *(To be completed by your Business Office. See instructions. Also see Section B.)*

8. Budget Expenditures

	Federal Grant Funds	Non-Federal Funds *(Match/Cost Share)*
a. Previous Budget Period	$ 463,946.00	$ 215,150.00
b. Current Budget Period	$ 291,867.54	NA
c. Entire Project Period *(For Final Performance Reports only)*	$ 2,251,143.54	$1,246,873.64

Indirect Cost Information *(To be completed by your Business Office. See instructions.)*

9. Indirect Costs

a. Are you claiming indirect costs under this grant? √_Yes ___No

b. If yes, do you have an Indirect Cost Rate Agreement approved by the Federal Government? √_Yes ___No

c. If yes, provide the following information:

Period Covered by the Indirect Cost Rate Agreement: From: __6___/ _30_/_2009 To: _9__/__30_/_2010(mm/dd/yyyy)

Approving Federal agency: √__ED ___Other *(Please specify)*: _____

Type of Rate *(For Final Performance Reports Only)*: ___ Provisional __√_ Final ___ Other *(Please specify):* _____

d. For Restricted Rate Programs (check one) -- Are you using a restricted indirect cost rate that:

_√_ Is included in your approved Indirect Cost Rate Agreement?

___ Complies with 34 CFR 76.564(c)(2)?

Human Subjects (Annual Institutional Review Board (IRB) Certification) *(See instructions.)*

10. Is the annual certification of Institutional Review Board (IRB) approval attached? ___Yes ___ No __√_ N/A

Performance Measures Status and Certification *(See instructions.)*

11. Performance Measures Status

a. Are complete data on performance measures for the current budget period included in the Project Status Chart? _√__Yes _No

b. If no, when will the data be available and submitted to the Department? _____/_____/__ (mm/dd/yyyy)

12. To the best of my knowledge and belief, all data in this performance report are true and correct and the report fully discloses all known weaknesses concerning the accuracy, reliability, and completeness of the data.

Mary Watson Title: Director, Exceptional Children Division

Name of Authorized Representative:Mary Watson or Laura Snyde Date: ___09__/_29____/_2010_ Signature: Copy Mailed by FedEx

Project Bright IDEA 2: Interest Development Early Abilities

Final Evaluation Report - Dr. Ron Tzur (09-29-10)

A. Introduction

Project Bright IDEA concluded 5 years of funded activities and an additional year of no-cost extension. This report provides an evaluation synopsis of all 6 years on the basis of the three domains articulated in the proposal: Project goals, activities, and outcomes. Overall, the empirically grounded conclusion of the project evaluator is a solid 'two-thumbs up'. The intensive, comprehensive, thought provoking, and consistent 21st Century professional development programs were regarded highly by hundreds of participating teachers and principals, and nurtured substantial transformation in their pedagogical perspectives and practices. In turn, this transformation yielded significant impact on the #1 target of any such project—increasing the number of students nominated for, and placed, in AIG programs. This was true not only for students in participating teachers' classrooms, but also for the entire student populations in project schools/counties (a 'ripple' effect). One key evidence to the project's success were efforts to extend the work to other K-2 classes in those schools, to other grades beyond K-2, and to other schools/districts. It is the evaluator's contention, and hope, that such efforts will be sustained and extended via appropriate funding (state and/or Federal) within North Carolina and beyond. Efforts are underway in six of the districts to continue to expand and scale-up across districts and to grades Pre-K-12 using their funds. Grants have been submitted by Duke University through AAGC and The Research Network to continue to evaluate and scale-up the model across North Carolina. The Exceptional Children Division of The North Carolina Department of Public Instruction is implementing pilot programs for Coordinated Early Intervening Services (CEIS).

The mixed-methods of evaluation activities and data sources included:

1. Extensive search of the literature and discussions with colleagues, and/or participation in their presentations at professional meetings, to situate the project (goals, activities) within the larger context of gifted and talented endeavors.
2. Videotaped observations, with extensive field notes, of 2-3 days in each of the Summer Institutes for BI teachers, the entire Summer Workshop for principals and AIG coordinators, and two of the BI Annual Teacher Fairs.
3. Videotaped interviews/field notes with every Institute/Workshop trainer and with a sample of participants in each professional development event (teachers, coordinators, principals).
4. Videotaped observations/interviews/field notes of the project Leadership Team meetings and of project personnel site visits (hence, also observations of teachers' work in their schools).
5. Participant Exit Survey—a written instrument consisting of both Likert-scale and open-ended items—administered at the end of each Summer Institute to all participants.
6. A mathematics problem-based questionnaire (PBQ) administered to all third grade students who were nominated (and/or placed) for gifted programs in their respective schools (both BI and non-BI).

B. Project Goals

The goals of a project drive its activities and determine criteria for success. In the case of Bright IDEA-2, examining these goals was particularly important because it aspired to become a model program for creating and sustaining new pathways for diversifying the country's intellectual leadership. To this end, the project set out three goals:

1) To increase the number of third graders from underrepresented populations who enroll in gifted and talented programs.

2) To improve teachers' dispositions toward the nurturing of giftedness in these student populations.

3) To promote the quality of these students' meta-cognitive and cognitive capacities.

Project goals were evaluated according to the five questions introduced in the project's proposal.

A. Were project goals comprehensive and focused enough?

The three goals were found comprehensive, as they link between improvement in student learning and transformation of teachers' held and practiced dispositions. The focus on teacher dispositions extended beyond the goals of several, partly compatible Javits projects (e.g., *Take Five: Unfolding Gifted Education*), by stressing the critical role that teachers' orienta-

tions toward giftedness and expectations of underserved students play in nurturing student learning (c.f., **Baldwin** et al., 2000). The project evaluator suggested to add a fourth goal: To create and ensure implementation of a coherent process (not just a single event) for identifying and placing gifted students in Bright IDEA schools.

The project goals were also found highly focused. First, they insightfully centered on measuring the real impact—number of students identified as gifted—at the commencement of gifted programs in NC (third grade). Second, they made it lucidly explicit that teacher dispositions are indispensable constituents of their practice and its impact on student outcomes. Last but not least, the emphasis on both cognitive and meta-cognitive facets of student development was consistent with cutting-edge, research-based accounts of mental processes that characterize gifted people (**Bransford** et al., 1999; **Marzano**, 2001; **Sternberg**, 2000). The project evaluator suggested augmenting Goal #3 by adding to it **Renzulli's** (1978) two requisites for actualization of giftedness, namely, creativity and task commitment.

B. Were project goals well grounded?

A review of national and international literature on giftedness/talent and gifted student education (references above are a good sample), as well as on giftedness in underserved populations (c.f., **Borland** et al., 2000), revealed that the goals of project Bright IDEA-2 were well grounded. This review was consistent with numerous comments made by expert instructors (e.g., Costa and Kalick, Parks, Moirao, Olive) and consultants (Marzano) with whom the evaluator had conversed.

C. To what extent were project goals unique and scalable?

A central goal stated by several Javits-funded projects was to create, deliver, and promote teacher professional development. Project Bright IDEA, in contrast, uniquely emphasized that transforming teachers' pedagogies is a means to the central purpose of bringing about changes in the quantity and quality of gifted students from underserved populations. As previously pointed out, Goal #2 makes reference to a specific change in teachers—dispositions—because such a change directly impacts student outcomes. In addition, Bright IDEA-2 was unique in its focus on third graders and on the development of student meta-cognition. It also fit with the array of programs that nurture gifted students by nurturing each and every student in a classroom, that is, the school-wide enrichment approach (**Renzulli** et al., 2000).

The project goals were found scalable in terms of changes in students beyond grade 3, or changes in teachers beyond dispositions (e.g., teachers becoming change agents through mentoring). The suggestions to add Identification Criteria/Methods as a fourth goal and creativity/task commitment as two aspects of Goal #3 are also examples of goal scalability.

D & E. How do project personnel and participants understand/interpret the goals and to what extent they adhere to these goals?

Interviews with and observations of project personnel can be summarized succinctly as follows. The project team deeply understands each of the goals as well as interrelations among them and faithfully adhered to these goals. The extent to which participants remember, understand, and adhere to the goals varied according to their role (i.e., mentors from Cohort-1 surpass beginners from Cohort-2) and the leadership exhibited by their school/county administration.

C. Project Activities

Project activities could be organized into three main types: Summer Institutes/Workshops, site visits in schools/counties, and Teacher Annual Fairs. The single, most important aspect of P.D. activity evaluation was the team's serious and comprehensive attempts to continue improving each and every area pointed to as requiring attention in previous years' evaluation reports. In particular, efforts were made, successfully, to coordinate among the different trainers' approaches and activities. This focused effort brought about significant increases in teacher appreciation for the summer institute and the 2/3-day workshops. Table 1 below summarizes data of teacher satisfaction levels regarding the Summer Institute and the entire BI professional development program (increases from year to year on the 5-point Likert scale were significant at $p < .05$ level).

Table 1: Participant satisfaction of BI professional Development Activities

Cohort	Summer Institute	Entire BI Program
1	3.7	3.5
2	4.1	3.7
3	4.2	3.9

It should be noted that in the first year, statistically significant differences were found among counties. The leadership team's use of evaluator's feedback led to diminishing those differences, mainly due to improved engagement by county leaders. Similarly, major differences found in the first year among teachers' satisfaction with their trainers were diminished in Years

2 and 3, with important increases in satisfaction with the components of intro to the overarching (21st Century) model and mathematics.

For each Cohort, the project organized the Annual BI Teacher Fair. These were extremely powerful events, highly attended by teachers and school/county administrators, as well as NC-DPI officials. Teachers' presentations focused on changes in students' work along parameters set by the project (e.g., meta-cognition, motivation, self-control, humor, etc.). What has been presented matched well with the evaluator's observations of site visits, and reflected substantial growth from 'hard to believe this can work in MY classrooms, with MY students' to 'this new approach and the training received are the best thing that happened to me, and my students, in my entire career'. The level of student curiosity, engagement, performance, and products indicated a huge shift in both what teachers seemed to expect of every student and what students expected of themselves. This shift was not easy to accomplish—as indicated by teachers' initial pedagogical attempts (rather superficial and behavior-oriented). However, as the evaluator's observations of repeated site visits revealed, promoted teachers' re-focus on the essence of changes needed, and engendered a substantial transformation. This transformation is further discussed in the next section.

D. Project Outcomes (Goal Accomplishment)

Three measures were set forth to determine accomplishment of project goals: (1) Head Count - number of third graders who were nominated for and/or placed in a school's gifted and talented program, (2) these students' performance on a Math PBQ, and (3) changes from pre- to post-intervention in teachers' responses to the Teacher Disposition Questionnaire items.

D-1: Teacher Disposition Questionnaire

In all three cohorts, the Bright IDEA professional development program made an impact on teachers' dispositions, toward consistency with the project's agenda. The most important change found in Cohort-3 was that, unlike the two previous years, NO negative changes in teacher dispositions were found (e.g., views of parents' contribution to educating their children as gifted)! For Cohort-3, dispositions on 27 (out of 50 items) improved during the first year after initial training (17 items for Cohort-1 and 22 items for Cohort-2). Among those Cohort-3 items, 17 increases reached statistical significance (only 12 for Cohort-1 and 7 for Cohort-2). Due to the small number of participants no county-by-county analysis was possible. The items with statistical significance (< .05) included:

- Q. 1a – Teacher seeking opportunities for professional development (4.73 -> 4.96!)
- Q. 3 – Teacher decreased thinking of the school's wealth as a reason for student outcomes (3.52 -> 3.91)
- Q. 16 – Teacher tendency to be flexible and experiment with the unknown (3.97->4.47)
- Q. 19 – Decrease in teacher's sole focus on students figuring out correct answers (3.72 -> 3.93)
- Q. 22 – Teacher consideration of student racial background as an important resource for their practice (3.05 -> 3.53)
- Q. 23 – Teacher effort to involve parents in what s/he does with students in class (3.93 -> 4.09, note clear improvements from previous two cohorts!)
- Q. 24 – Teacher **actively** seeking for professional development (4.17 -> 4.36)
- Q. 27c – Love for teaching science (4.24 -> 4.59)
- Q. 28 – Teacher awareness that professionalism requires more than a 4-year college (4.24 -> 4.59)
- Q. 32a – Teacher increased sense of intimacy with Language Arts (4.16 -> 4.40, compared with 3.88-> 4.38 for Cohort-2!)
- Q. 32b - Teacher increased sense of intimacy with Mathematics (4.02 -> 4.53, compared to no change in Cohort 1 & 2!!!)
- Q. 33 – Teacher responsibility for actively nurturing G&T already at the K-2 level (4.28 -> 4.71, compared to 4.33 -> 4.60 in Cohort-2)
- Q. 34 – Teacher awareness of link between goal accomplishment and student interests (4.31 -> 4.53)
- Q. 35b – Teacher establishment of high expectations of ALL students (4.41 -> 4.67, no such change in Cohort-2)
- Q. 37a – Regarding a given sample of math problems as suitable for the earliest (K-1) grade levels (4.52 -> 4.90!!!)
- Q. 42 – Teacher view of giftedness as a function of nature, not nurture (3.86 -> 4.14, no such change in Cohort-2)
- Q. 43 – Teacher increased understanding of the role of metacognition in student learning (3.84 -> 4.22, compared to 4.07 -> 4.35 in Cohort-2)

Thus, the goals of the project were accomplished in terms of teachers adopting key pedagogical principles, including two areas of concern in the first two years: dispositions toward parents' role and the teacher's need to proactively partner with the parents, and toward math. These improvements from Cohort-1 through Cohort-2 to Cohort-3 reflect the leadership team's proactive agenda following specific evaluation feedback and recommendations.

D-2: Head Count

Throughout the BI project tenure, data analyses of student identification for and/or placement in G&T programs (see Table 2 below) demonstrated four main trends (both were statistically significant at $p < .05$ level or better):

(a) Compared to the control classrooms in the same schools, assessed by the same criteria (set and tested for by the counties), many more BI graduates were proportionally identified/placed;

(b) The BI program caused an increase in identification/placement of students from the control classes, which before the project's commencement was virtually 0%;

(c) Variance among counties was high and seemed to reflect the aforementioned differences in county leadership (data on those differences were available in previous Annual Reports); and

(d) No disproportional representations of ethnicity and/or gender were found in either group (BI, control).

Additionally, in the last year of the project its team managed to obtain differentiated data for identification and placement. The figures indicate that, in contrast to the control classes, BI identification and placement matched closely. Assuming a similar trend in previous years stresses the substantial impact that changes in teacher dispositions and practices brought forth in students' learning and excellence. (Note: The extremely high figure for BI Cohort-2 was related to local (two counties) data that most likely reflect a non-recurring situation.}

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D-3: Math PBQ

The first three years of the project demonstrated that a change in the teaching (and learning) of mathematics required a much more concerted effort than what has been provided by the project. Based on the evaluator's experience and expertise as a mathematics educator, such effort would better follow 2-3 years of implementing the transformed, generic pedagogical approaches and practices. This is particularly the case due to mathematics being a difficult topic for most of the teachers, both in terms of their content knowledge and traditional practices. Consequently, in the structure and evolution of the BI project, students' outcomes on the math PBQ seemed like an "Achilles Heel." That is, in the first 3 years of the projects students' overall performance on the PBQ was disturbingly low, with no differences between the BI and non-BI groups. Findings from the last year of the project suggest that the math-focused efforts with AIG coordinators, principals, and teachers began making some impact, even if modest.

Table 3 below provides data for that last year. Initially, 5 nominal categories for student responses to each item were used: 0 – No answer or "I don't know"; 1 – Wrong answer (attempt); 2 – Correct answer with no reasoning (except, maybe, for algorithm); 3 – Correct answer with minimal reasoning; 4 – Correct answer with good reasoning. To better compare BI and non-BI students the above categories were 'collapsed' into the following three: 0 – No answer, I don't know, or wrong; 2 – Correct with no reason; 4 – Correct with reason. By these, a brief look at the first category ('0') provides an immediate impression of the percentage of students who failed on each item. Fortunately for a comparison between BI schools and the regular population, one county mistakenly administered the questionnaire to all its third graders. Figures for that county appear in the third row ("Others") and show a rather stark difference with student in BI schools. Of course, these results should be taken with much care, as the students tested in BI schools (either BI or non-BI participants) were those identified for gifted programs. However, in previous years, results of those very students (BI and non-BI in project schools) were substantially lower and resembled the "Others" results this year. The first two rows of each item in the table show that, overall, there has not been a substantial difference between BI and non-BI students. However, on four items (questions 5b, 6a, 21, and 22a, gray background), BI students outperformed their non-BI counterparts mainly due to **better reasoning**. On one item of those (question 9b) non-BI students outperformed their BI counterparts mainly due to BIs' wrong/no answers.

Table 3: Comparison of performance on the Math PBQ among non-BI (row 1 in each item), BI (row 2), and larger population (row 3)

Question	BI	0 – No answer, Wrong	2 – Correct, No Reason	4 – Correct + Reason	Chi Sq. Sig.
1: What number comes 4 before 60?	N	2 (6%)	26 (77%)	6 (18%)	
	Y	2 (6%)	19 (59%)	11 (34%)	
	Others	50%	38%	12%	
2: Smallest 2-digit number?	N	0	15 (44%)	19 (56%)	
	Y	3 (9%)	12 (38%)	17 (53%)	
	Others	35%	38%	27%	
3a: Number that's 10 after 99?	N	6 (18%)	24 (71%)	4 (12%)	
	Y	3 (9%)	25 (78%)	4 (13%)	
	Others	59%	36%	5%	
3b: Number that's 9 after 999?	N	7 (21%)	22 (65%)	5 (15%)	
	Y	6 (19%)	24 (75%)	2 (6%)	
	Others	74%	21%	5%	
4: Which is the smaller difference, 99-92 or 25-11	N	15 (44%)	1 (3%)	18 (53%)	
	Y	15 (47%)	0	17 (53%)	
	Others	71%	14%	15%	
5a: Who has more, Donna (305 cents) or James (297 cents)	N	1 (3%)	28 (82%)	5 (15%)	
	Y	0	26 (81%)	6 (19%)	
	Others	11%	89%	0	
5b: How much more does Donna have (305-297)?	N	4 (12%)	30 (88%)	0 (0%)	< .06
	Y	6 (19%)	22 (69%)	4 (12%)	
	Others	59%	41%	0	
5c: Two ways to equalize 297 & 305	N	12 (35%)	22 (65%)	0 (0%)	< .1
	Y	9 (28%)	19 (60%)	4 (12%)	
	Others	84%	15%	1%	
6a: 67+5 = ?	N	2 (6%)	29 (85%)	3 (9%)	< .05
	Y	0 (0%)	22 (69%)	10 (31%)	
	Others	19%	79%	2%	
6b: 600+100 = ?	N	1 (3%)	29 (85%)	4 (12%)	
	Y	0	24 (75%)	8 (25%)	
	Others	8%	91%	1%	
6c: 110-40=?	N	6 (18%)	27 (79%)	1 (3%)	< .12
	Y	5 (16%)	21 (66%)	6 (19%)	
	Others	47%	51%	2%	
6d: 6 x 4 = ?	N	1 (3%)	8 (24%)	25 (74%)	
	Y	1 (3%)	8 (25%)	23 (72%)	
	Others	29%	47%	24%	
6e: 1 x 5 = ?	N	0	18 (53%)	16 (47%)	
	Y	0	16 (50%)	16 (50%)	
	Others	11%	69%	20%	
7: Tanisha rope jumps (400-278)	N	12 (35%)	20 (59%)	2 (6%)	
	Y	13 (41%)	17 (53%)	6 (6%)	
	Others	67%	33%	0	
8a: Write the number that's 6 Tens, 3 Ones, and 5 Hundreds	N	5 (15%)	24 (71%0	5 (15%)	
	Y	1 (3%)	25 (78%)	6 (19%)	
	Others	36%	55%	9%	
8b: What number is ten tens?	N	4 (12%)	12 (35%)	18 (53%)	
	Y	4 (13%)	13 (41%)	15 (47%)	
	Others	60%	19%	21%	
8c: Show two ways to figure out the Tens digit in answer to 627-	N	19 (56%)	13 (38%)	2 (6%)	
	Y	15 (47%)	15 (47%)	2 (6%)	

40	Others	95%	5%	0	
9a: Complete 37, 38, _, _, _, 42, 43	N Y Others	0 0 13%	13 (38%) 9 (28%) 55%	21 (62%) 23 (72%) 32%	
9b: Complete 52, 62, 72, 82, _, _, _	N Y Others	4 (12%) 11 (34%) 59%	12 (35%) 3 (9%) 22%	18 (53%) 18 (56%) 18%	< .05
9c: Complete 223, 218, 213, 208, _, _	N Y Others	12 (35%) 12 (38%) 72%	5 (15%) 3 (9%) 12%	17 (50%) 17 (53%) 16%	
9d: Complete _, _, 980, 970, 960, _, 940	N Y Others	4 (12%) 5 (16%) 57%	11 (32%) 5 (16%) 24%	19 (56%) 22 (69%) 19%	
9e: Complete _, 630, 640, 650, _, _, 680	N Y Others	0 0 26%	14 (41%) 10 (31%) 51%	20 (59%) 22 (69%) 23%	
10: Next flip after Head-Head-Head-Head?	N Y Others	32 (94%) 31 (97%) 99%	1 (3%) 0 0	1 (3%) 1 (3%) 1%	
11a: Show 3 different Parrot/Cat combinations for 16 legs?	N Y Others	13 (38%) 11 (34%) 85%	18 (53%) 16 (50%) 10%	3 (9%) 5 (16%) 5%	
11b: How many Parrot/Cat combinations total?	N Y Others	32 (94%) 27 (84%) 98%	1 (3%) 3 (9%) 2%	1 (3%) 2 (6%) 0	

Question	BI	0 – No answer, Wrong	2 – Correct, No Reason	4 – Correct + Reason	Chi Sq. Sig.
12: How much taller is 65 water slide than 38 water slide?	N Y Others	3 (9%) 4 (13%) 55%	30 (88%) 27 (84%) 45%	1 (3%) 1 (3%) 0	
13: How many teams of Ten for 264 children?	N Y Others	9 (27%) 6 (19%) 84%	8 (24%) 7 (22%) 3%	17 (50%) 19 (59%) 13%	
14: Circle ¼ of the dots (two rows of 4)	N Y Others	16 (47%) 15 (47%) 92%	7 (21%) 8 (25%) 5%	11 (32%) 9 (28 %) 3%	
15: Circle ½ of dots (uneven, 7 in top row)	N Y Others	9 (27%) 9 (28%) 90%	8 (24%) 8 (25%) 5%	17 (50%) 15 (47%) 5%	
16: Put 517 pennies in bags of 10, how many bags?	N Y Others	18 (53%) 15 (47%) 95%	9 (27%) 5 (16%) 1%	7 (21%) 12 (38%) 4%	
17: How many cards fit in album page? (3x5=15)	N Y Others	28 (82%) 29 (91%) 96%	0 0 1%	6 (18%) 3 (9%) 3%	
18: Migueal 23 bags of 10 + 13 marbles, Tara 17 bags + 8; Total?	N Y Others	27 (79%) 23 (72%) 99%	1 (3%) 2 (6%) 0	6 (18%) 7 (22%) 1%	
19: Four cakes with 6/6, 5/6 were left/shaded	N Y Others	18 (53%) 16 (50%) 91%	7 (21%) 4 (13%) 2%	9 (27%) 12 (38%) 7%	
20: Array of 6x7 balls, how many each of friends brought?	N Y	14 (41%) 14 (44%)	5 (15%) 1 (3%)	15 (44%) 17 (53%)	

	Others	88%	3%	9%	
21: Estimate total of bottles 143+321+712	N Y Others	3 (9%) 3 (9%) 58%	22 (65%) 10 (31%) 40%	9 (27%) 19 (59%) 2%	< .05
22a: Venn diagram	N Y Others	6 (18%) 4 (13%) 76%	22 (65%) 13 (41%) 23%	6 (18%) 15 (47%) 1%	< .05
22b: Venn diagram (conjunction, Blue AND Green)	N Y Others	26 (77%) 25 (78%) 90%	7 (21%) 6 (19%) 10%	1 (3%) 1 (3%) 0	
23: Order the numbers 561, 187, 543, 178, 420	N Y Others	0 0 41%	26 (76%) 26 (81%) 59%	8 (24%) 6 (19%) 0	

E. Affirmative Kudos

After six years, project Bright IDEA-2 demonstrated two essential attributes for which, in times when too many children are still left behind, investment of Federal (and state) funds seem worthy of national recognition and attention: (a) **high** capacity to initiate and sustain, in a remarkable number of teachers and principals, a desired transformation in their notoriously resistant-to-change modes of teaching and (b) **high** capacity of the team to foster project improvements via continual, intensive reflection on unexpected problems and application of ongoing, formative evaluation feedback. Combined, these capacities produced a remarkable increase in the number of students who become eligible for Gifted & Talented programs. These findings suggest that Bright IDEA can, and should, serve as a model transformative program for K-2 education and beyond (to gifted as well as general populations).

F. 2010-2011 – Sustainability – Lessons Learned and Scale-Up of Project Bright IDEA – Submitted by Mary Watson, Principal Investigator and Margaret Gayle, Project Director

Many of the research districts have scaled-up many of the components to grades K-5 and they are continuing to train teachers and principals as district funding becomes available. These districts began scaling-up as soon as they were out of the three-year commitment to the research, based on project data, their local assessments and feedback from teachers and principals. Models have been adapted for middle and high school and are being implemented in two of the districts. In addition to identifying and placing more Title 1 students in gifted programs, these districts have shown academic gains for all of their students and many of their schools meeting AYP for the first time, especially where all of their staffs have been trained.

Feedback through surveys and on-site visits from teachers, in districts that have not expanded, indicate that they will continue to teach using the *Bright IDEA Pedagogy and Strategies*. The districts that have not expanded had major leadership changes with principals, curriculum specialists and superintendents, making it difficult to continue. Changes in key leadership positions became the biggest barrier to continuing with the project. The other major barrier is the use of instructional funds for many programs that do not work, making it difficult to find funds to purchase materials for students. In the successful districts, Title 1 personnel, with the Curriculum Coordinators pooled funds to train all of the teachers and to purchase the student materials. This became a key factor in the districts being able to sustain the scaling up. At the high school that implemented Bright IDEA, the principal is using his local funds to expand across content areas. The biggest lesson learned is that to sustain an innovative professional development program of this complexity, superintendents, local boards and policy makers need a long range plan and to be willing to stay on course with re-training teachers to have the tools and the skills necessary to teach a curriculum that is full of rigor and high level strategies to a diverse group of students. Through the research it has become evident that the PD Model and the impact that it has on student development and achievement is a model for all teachers and principals because the focus is on what works: 1) raise the level of knowledge about rigor and best practices for teachers and principals and to help them to understand more complex research-based strategies for engaging students in complex tasks that will enrich and improve their academic opportunities.

Gifted Intelligent Behaviors: In addition to the Evaluator's evaluation instruments, the leadership team designed rubrics, validated by experts, for teachers to assess students on the Habits of Mind, Talents, Attributes and Behaviors on a five-level scale for improving the "job or soft skills" desired by employers. See attachment on Results. These GIB's were integrated into the concept-based curriculum units designed by teachers.

<u>A Model for Exceptional Children funded by Exceptional Children Division at NCDPI: 2010-2011</u>
The designers of Project Bright IDEA through the Exceptional Children Division of The North Carolina Department of Public Instruction have designed a model for Coordinating Early Intervening Services (CEIS) and Professional Development for their teachers to: 1) prepare children to exit EC classes and perform at successful academic levels; 2) support Reading and

Math Foundations; and move students to a deeper level of understanding; and 3) support and enhance Positive Behavior Models. Two districts are serving as a pilot for implementing this model during this school year.

A Model for Alignment with International Baccalaureate (IB) Programs: Guilford County aligned Bright IDEA components with IB in a middle school with outstanding results, under the leadership of the Assistant Principal who was trained in the Javits Cohort-1 Group. Teachers indicated that the Bright IDEA training helped them with deeper understanding of IB and how to better apply IB in their classrooms.

A Professional Development Model for All Teachers, with a focus on Low Performing Schools: This model works for all teachers and all students because the focus in on re-training all teachers in understanding how to raise the level of rigor in all curriculum through an integration of state standards and best practices for differentiating instructional delivery and using concept-based interdisciplinary curriculum units with their students. All students are taught five analysis thinking skills that are needed for understanding basic skills, universal concepts and processes necessary for academic achievement throughout their schooling. All districts that are using the Building Thinking Skills (BTS) Program consistently have reported success in their schools by making AYP and/or evidence from state and national tests. The Gifted Intelligent Behaviors (GIB's) provide a model for positive behavior support and for students to be successful in school and to be prepared for the future of work and life. One of the Wake County Schools received a national award for Closing The Achievement Gap after training the staff in the two components of Project Bright IDEA and implementing BTS and GIB's for the students. The principal credited the success of their students as a result of Bright IDEA training. Lenoir County opened a new Pre-K-5 *Bright Tomorrow School* in August 2009 and the students have made impressive progress after a year, (See Attachment, Title 1, Northeast Elementary School) School districts continuing include: Brunswick, Elizabeth City, Guilford, Lenoir, Thomasville and Wake.

SECTION C - Additional Information (See Instructions. Use as many pages as necessary.)

Partners in Project Bright IDEA
North Carolina Department of Public Instruction – Exceptional Children Division
The American Association for Gifted Children at Duke University
Local School Districts Selected in Cohort 1: Guilford County, Hickory City, Lenoir County, Moore County, Roanoke Rapids Graded School District, and Wake County.
Local School Districts Selected in Cohort 2: Beaufort County, Brunswick County, Duplin County, Franklin County, Richmond County, and Wake County.
Local School Districts Selected in Cohort 3: Brunswick County, Guilford County and Lenoir County. New districts include: Elizabeth City-Pasquotank and Robeson County.
Demonstration Site: Thomasville Primary School, Thomasville, NC.

Total Numbers in Research:

Impact of Project;	**Curriculum Designed Training for:**	**Students:**	**Bright IDEA – 5000**
Eleven School Districts	180 Classroom Teachers		**Control Group - 5000**
28 Cohort Schools	15 AIG Teachers		
168 Bright IDEA Classes	30 School Principals		
168 Standard Classes	11 AIG Coordinators		
1 Demonstration Site	8 Mentors – Pilot Site		

Expansion after Three-Year Timeline for each Cohort:
Districts that expanded training across a number of elementary schools for all teachers: Brunswick (3); Elizabeth City (2); Guilford (10 and 1 middle school); Hickory City (5); Lenoir (4 and 1 middle school); Lexington City (3); Moore (3); Roanoke Rapids (3); Rowan-Salisbury (2); Thomasville (1); Whiteville City (2) and Wake (8 plus 1 high school and 145 AIG teachers, 3-8 grades). All of these districts have trained mentors for follow-up.

Barriers:
Head Count Data – Cohort-3 Head count data was incomplete for 2 of the districts: The Superintendent, both principals and the AIG Director left the district during the critical timeframe for collecting the talent pool data. In the second district, some of the teachers did not carryout the treatment properly. The data in this report is based on the three districts that did complete the research.

Conducting Research in Schools: Teachers have so much paperwork, with little planning time and to add a research project and training that required the amount of time and effort was a challenge, but after completing the training, most of the teachers said that it was worth it and that they should have gotten this training in their pre-service program and that it would have made their teaching better from the beginning. In most of our schools, principals found planning time for the teachers to work together with the buddy observational tool.

Unanticipated Outcomes and Benefits
One of the most exciting and beneficial outcomes has been on the engagement of the students and their successes in reading, writing, thinking, vocabulary development and their love of the Gifted Intelligent Behaviors. From the minute the children enter the program, they must speak in complete sentences when responding to questions. They catch on to this quickly and teachers believe that this simple strategy along with the thinking skills program has helped Bright IDEA students outscore the control students on reading and writing assessments. Students work in centers around differentiated learning tasks and quickly become adept at working collaboratively.

Wake County Schools hired a company to conduct a comprehensive curriculum audit for their entire school system. There were a number of audit exceptions, especially in the gifted program. The Wake Central Staff for the Academically Gifted Program adopted the Bright IDEA Concept-Based Curriculum Unit Template because they said "the template addressed every exception to the way they were delivering instruction to students." As a result, Wake County has expanded training in Building Thinking Skills to a large number of elementary and middle schools and the Bright IDEA Leadership Team has helped in conducting training on developing concept-based units to 145 AIG teachers who have written interdisciplinary social studies units for grades 3-8. They developed approximately 70 units, now being used with Lead AIG teachers. Wake County has four Title I

schools in the research cohorts, another elementary school, Forestville, which won a national award for closing the achievement gap and the Principal gives credit to the training on Bright IDEA pedagogy. Fuquay High School Principal, Edward McFarland, was trained in Bright IDEA in one of the elementary schools and is having great success introducing instructional strategies from Bright IDEA into his high school and has cut suspension rates and raised academic scores for all subjects.

The best outcome has been the participants in the Project who have become the champions for getting the word out in their districts and who understand the impact of the Project on the children and how it has changed their teaching practices for the better. As a result of teachers and principals sharing their experiences there has been an expansion of the Project across all grade levels as they complete the research. Building Thinking Skills and Gifted Intelligent Behaviors are the first components to implement and have a big impact on vocabulary development, writing, problem-solving, and student behaviors and attitudes. Many teachers decided to get National Board Certification after taking Bright IDEA training and were successful in that process.

Dissemination:
As a result of the dissemination at National and State Conferences, we have received numerous requests for implementation in other districts and states. Three Dissemination Seminars were held to discuss lessons learned, to revise any major changes to the Professional Development Model and to make recommendations to policy holder.
Project Bright Tomorrow, directed by the former Principal of the Demonstration Site, Thomasville Primary and trained in Bright IDEA Practices, secured a grant from Piedmont Triad Consortium for $200,000 to expand a K-12 model across three school districts and the Community College that serves those districts. The business executives from the area are excited about the project, the training and curriculum and are working with the Project to sustain and promote it within the districts. This grant has been completed but one district from this grant is continuing to implement and to expand elements across the district.

Demonstration Site for five years: Thomasville Primary School, Paula Gaylord, Principal – Entire school is in training for all components.
New Demonstration Sites: Northside Elementary - Elizabeth City/Pasquotank County; Northeast Elementary, Lenoir County; and Aversboro Elementary in Wake County.

Dissemination Outside of North Carolina: Richland School District 2, Columbia, SC – Completed 2nd year of implementation of major components of Bright IDEA.
Darlington School District, Darlington, SC – Completed 1st year of implementation of major components of Bright IDEA.

Inquiries for Training and Information:
National, State and Local Press
Goochland School District, Virginia
Appleton School District, Wisconsin
Dr. Hardin Coleman, Dean, College of Education, Boston College (For a Mini Conference in Boston for his faculty and invited educators from Boston Schools.)
Dr. Ellen McIntyre, Director, Elementary Education Program, College of Education, North Carolina State University
Dr. Jan Riggsbee, Director, Education Program, Duke University

A Documentary Film is being developed on a new start-up Project Bright Tomorrow School in Kinston, NC and some online training courses are being developed to help scale-up training.

The co-designers and evaluator will publish a detailed set of materials and journal articles on different aspects of the model. Two of the co-designers, Margaret Gayle and Mary Hargett, have a chapter on The North Carolina Story of Habits of Mind in a new book, *Leading and Learning Habits of Mind*, published by ASCD in 2009 was written by Art Costa and Bena Kallick.

project bright idea II

Javits Research Summary
USDOE Report
September 2010

A K-2 NURTURING PROGRAM

Project Bright IDEA:
Interest Development Early Abilities

PUBLIC SCHOOLS OF NORTH CAROLINA
Department of Public Instruction | State Board of Education
Exceptional Children Division

AMERICAN ASSOCIATION FOR GIFTED CHILDREN
Duke University

Javits Research and Dissemination

US Department of Education-2004-2010

Exceptional Children Division

Mary Watson, Director and Principal Investigator
Exceptional Children Division, NCDPI

Margaret Gayle, Project Director, Bright IDEA 11 and
Executive Director
The American Association for Gifted Children
At Duke University

project bright idea II A K-2 NURTURING PROGRAM Project Bright IDEA: Interest Development Early Abilities

Bright IDEA is….

A Nurturing and Cognitive Development Strategy for all children and a re-training model for all teachers.

Bright IDEA Transcends

racial and ethnic Inequality, poverty and background knowledge and …..

Engages the family in the child's education.

Historical Perspective

- 1996 - Article 9 B - new definition for identifying AIG students
- 2001- The Darity Report submitted to State Board of Education
- 2001- State Committee formed to develop nurturing program
- 2001- RFP Selection of 5 sites for pilot
- Funding from AAGC & EC & Closing the Gap Divisions, NCDPI

2001-2004 - K-2

Project Bright IDEA 1

- Gaston, New Hanover, Stanly, Thomasville and Wake - 1 school each
- Closed the Achievement Gap based on NC Literacy/Math/Writing Assessments
- Some IOWA Data
- Rubrics on Gifted Intelligent Behaviors

Project Bright IDEA 2 - 2004-2010

- Javits Education Program (Funded by US DOE)
- NCDPI - Fiscal Agent
- AAGC - In-kind Support
- $2.5 Million - 5 years
- 22 Title 1 schools
- 11 Research Districts
  - RFP Process
- 1 Demonstration Site (Thomasville Primary)
- Final Report to DOE - September 15, 2010

- 3 Year Commitment per cohort - K-2 for the Research Design
- Year 1 - 15 days of Professional Development for teachers, principals and specialists
- 5-day Summer Writing Institute (Concept-Based Curriculum Units) Over 200
- Year 2 & 3 - Follow-up coaching and mentoring, implementation and revising curriculum

Bright IDEA 2 Sites

Cohort 1
2004-2007

- Guilford
- Hickory City
- Lenoir
- Moore
- Roanoke
- Rapids
- Wake

Cohort 2
2005-2008

- Brunswick
- Duplin
- Rowan
- Wake

Cohort 3
2006-2009

- Brunswick
- Elizabeth City
- Guilford
- Lenoir
- Robeson

Bright IDEA is a Model for Thinking Skills

- **Students and Teachers Speak in Complete Sentences, respectively**
- **Practice Thinking and Reflection on Learning during every lesson**
- **Immersed in Analysis Skills and Advanced Vocabulary that are critical for success on tests**

Bright IDEA PD

- **Empowers Teachers and Principals to Innovate and Create interdisciplinary units of Study**
- **Connects them to professionals that engage in scholarly dialogue around a common set of research-based practices and solutions for their students**
- **Expands their potential beyond a school and district or specific program**

From Dr. William "Sandy" Darity, Duke University on Identification for Honors and Gifted Programs:

"Universalize the equivalent of the Gifted Program for all students."

Gifted Placement:

"One out five, if a White kid; One out of twenty, if a Black or Hispanic kid"

State of Things - WUNC Radio - June 2006

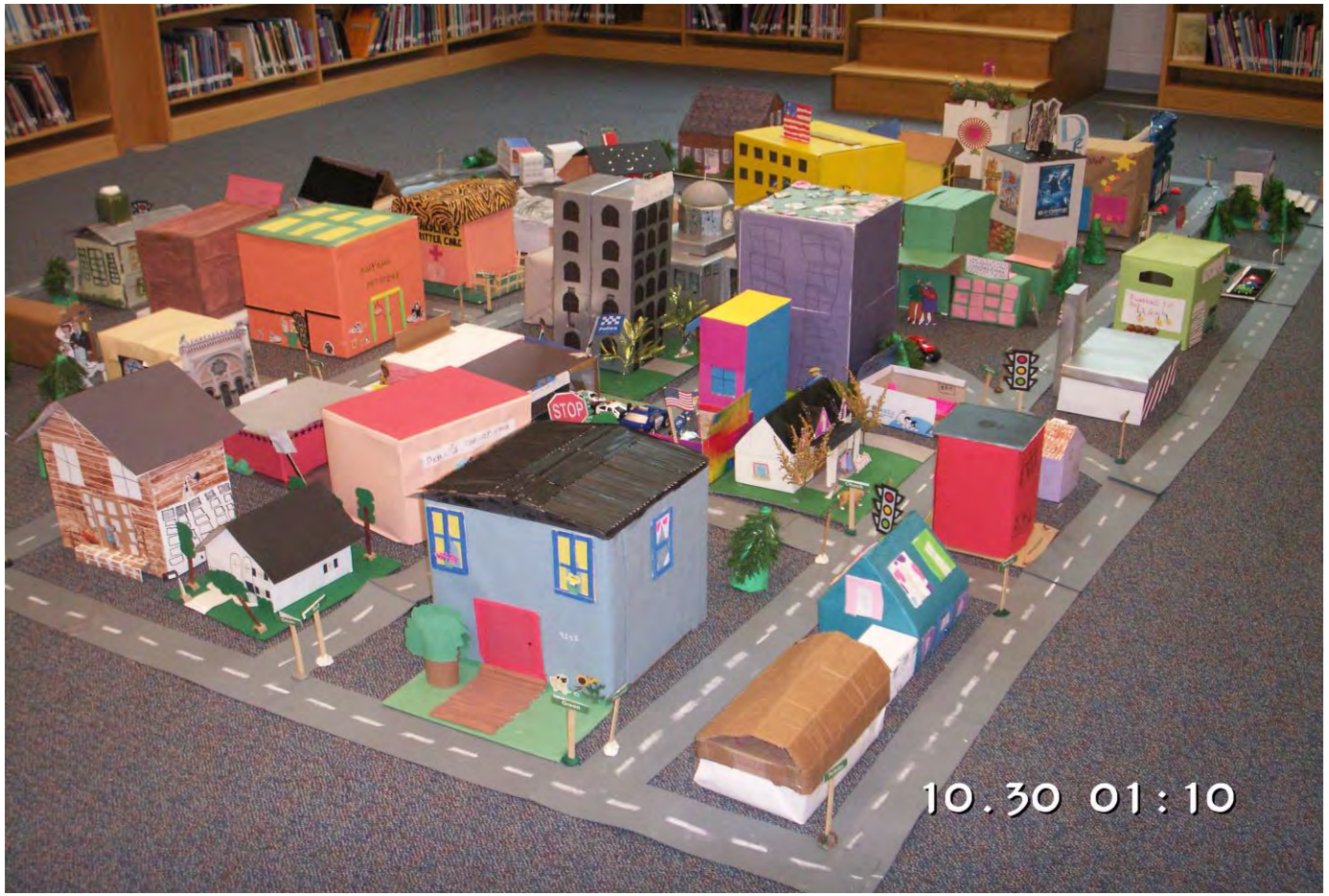
Leonardo & Michelangelo Debate
First and Second Graders - Unit on Exploration

Leonardo Debate

Concept Based Interdisciplinary Curriculum Unit on the Renaissance

- Debating the Question: Who was the greatest creator of his time? Leonardo or Michelangelo
- Students judged debate using a rubric based on criteria

Community Unit on Change, Patterns & Relationships



Bright IDEA is……

- A differentiated instructional model;
- A toolbox of current research-based practices for teachers, principals and students;
- Rigorous professional training that aligns with the new teacher evaluation instrument
- A multi-faceted, interdisciplinary and integrated set of curricular components;
- A natural or organic approach to teaching and learning and
- Nurtures and engages each student around interest, learning styles, intelligent behaviors and multiple intelligences!

Bright IDEA is a model that……

- fosters change in teacher dispositions for nurturing academic potential and developing talent in all students;
- encourages the development of rich, engaging and challenging concept-based curriculum for ALL students;
- meets the special needs of the exceptional children and low performing students;
- encourages innovation by teachers, principals and curriculum specialists; and
- forms partnerships between principals, teachers, parents, students and the community.

Bright IDEA is not.....

- an add-on “curriculum” or

  a prescriptive program
- something you “do today or for a period in the day”
- just for at-risk students
- a cookie cutter model

Research Questions

- What are the dispositions of teachers toward children from diverse groups?
- Can Bright IDEA impact the # of children identified for AIG programs?
- What impact will Bright IDEA have on the meta-cognitive levels of all children?
- Can the impact be linked to changing the dispositions of teachers?

Project Bright IDEA 2 - Research Goals

- **Overarching goal:**
- **Create a model nurturing program for transforming K-2 instruction and curriculum for all 21st century students**
- **Specific goals:**
  - **Increase the number of gifted students from underserved populations via change in teacher dispositions**
  - **Increase the number of underserved third graders in G/T programs**
  - **Advance these students' meta/cognitive skills**
  - **Level the academic playing field for all students**
  - **Change teachers' dispositions to impact goals**

Professional Development (PD) for ALL

- Tailors best gifted and regular education methodologies for teachers/principals/specialists to use with all students.
- Changes the dispositions of teachers to believe that all students can "be smart" when immersed in rich and engaging curriculum and motivates them to find the talents, learning styles, interest and gifted behaviors in each student.
- Builds on the most advanced research and practices.
- Focuses on empowering regular classroom teachers, principals and curriculum specialists, though training and mentoring, to become curriculum innovators and architects for the future.
- Trains teachers to design interdisciplinary, concept-based curricular units based on state standards, taxonomies, universal concepts and big ideas.

Professional Development (PD)

- Teachers, Principals and Specialists are taught to:
  - "deconstruct" the standards for the "Big Ideas" and universal concepts
  - "unpack" the level of cognitive and meta-cognitive thinking in the standards in order to create defensible differentiated curricula for all students
  - design concept-based units of studies aligned to formative and summative assessments and six facets of understanding (over 200 units completed)
  - align curriculum, instruction and assessment using the Revised Bloom's Taxonomy
  - understand the impact of Marzano's Taxonomy on interest development and student learning

Impact on Students

- Infuses ***Building Thinking Skills, Gifted Intelligent Behaviors and Multiple Intelligences into all of the curriculum***
- Redesigns **classroom environments to meet the learning styles, abilities and interests of all children**
- delivers **instruction through tiered levels of difficulty (curriculum is designed for the top 3-5% class) with entry levels for all students**
- ensures **success for students through flexible grouping and multiple intelligence centers around learning targets, performance tasks, skill development, and formative assessment of procedural knowledge**

Head Count - All Cohorts

Graduates of Bright IDEA - 2007-2009

	AIG IDENTIFIED *	
	BI	**Non-BI**
Cohort-1	**24%**	**10%**
Cohort-2	**46%**	**10%**
Cohort-3	**15%**	**10%**

*Based on third graders in all participating schools, CoGAT or IOWA Test of Basic Skills and other criteria.

Head Count Trends

AIG Identified/Placed (Id/Pl)

- More BI Graduates were proportionally identified/placed
- BI caused an increase in (Id/Pl) from control classes, where virtually none were before

- Variance among counties was high and seemed to reflect leadership changes
- No disproportional differences of ethnicity or gender were found in either group

Math Problem Based Q

Evaluation of Responses to Questions Include:

- **0: No answer or “I don’t know”**
- **1: Incorrect answer; some calculation**
- **2: Correct answer; no reasoning**
- **3: Correct answer; simple reasoning**
- **4: Correct answer; deep reasoning**

Note: Girls outperformed boys on explaining their answers.

Math PBQ Trends

Questionnaire Given to Talent Pool Students

- Math PD Training became a difficult topic for most of the teachers in content knowledge and best practices
- After more math-focused efforts, a modest impact was seen
- Clearly, many teachers expressed in written and verbal statements their lack of knowledge of math and their dislike of math

Improved Dispositions after PD

- Cohort-3: 27 out of 50 survey items improved
  - 17 items reached statistical significance
- Cohort-2: 22 out of 50 survey items improved
  - 12 items reached statistical significance
- Cohort-1: 17 out of 50 survey items improved
  - 7 items reached statistical significance

Disposition Changes

- Q. 3 – Decreased thinking of the school's wealth as a reason for student outcomes.
- Q. 16 – Tendency to be flexible and experiment with the unknown.
- Q. 23 – Effort to involve parents in what she/he does with students in class.
- Q. 27c – Love for teaching science.
- Q. 28 – Awareness that professionalism requires more than a 4-year college degree.
- Q.32a and 32b – Increased sense of intimacy with Language Arts (All cohorts) and Mathematics (No change for Cohorts-1 and 2 but an increase for Cohort-3 due to more training on math theory and practice.)

Significant Change

- Q. 33 – Responsibility for actively nurturing Gifted (Cohort-3 more than Cohorts-1 and 2)
- Q. 34 – Awareness of link between goal accomplishment and student interests.
- Q. 35b – Establishment of high expectations of ALL students. (Cohort-3 highest)
- Q. 42 – View of giftedness as a function of nature, not nurture.
- Q. 43 – Increased understanding of the role of meta-cognition in student learning.

Recommendations for Implementation

- **Implement Building Thinking Skills for ALL Students in K-5 grades (Aligns with the Cognitive Abilities Test, CoGAT)**
- **Infuse the five analysis and other critical thinking skills into all areas of the curriculum**
- **Integrate Habits of Mind/Gifted Intelligent Behaviors in all content areas**
- **Re-train all teachers on all components of Bright IDEA from preschool through 5th grade as funding permits!**
- **Train middle and high school teachers in Gifted Instructional Strategies and Intelligent Behaviors**

Curriculum Options for EC

CEIS Goal:
To intervene early with students who need additional academic and behavioral assistance in a general education environment…. by developing their skills, knowledge and dispositions through Bright IDEA.

Recommendation: Train regular and exceptional teachers in components of Bright IDEA to meet their needs and the needs of the district.

Curriculum Options for EC

Exceptional Children Goals:

1. Prepares many students to exit EC classes and perform at successful academic levels.

2. Supports the Reading and Math Foundations' courses and moves students to a deeper level of understanding.

3. Supports and Enhances Positive Behavior Models through the Gifted Behaviors.

Project Bright Tomrrow:

The Journey Continues….

Thanks to the Jacob Javits Gifted Program funded by the US Department of Education

& NCDPI

& AAGC.

Project Bright Tomorrow

- Brunswick County
- Guilford County
- Elizabeth City
- Lenoir County
- Whiteville City
- Wake County

Essential Questions for Educators

- How do we educate the child born in 2000 to live, work and compete in the "flat world" described by Thomas Friedman?
- How will this generation of children grow up with the necessary knowledge and wisdom as defined by the new 21st century taxonomies, to address issues, problems and challenges when solutions are complex and not easily definable and accessible?
- Most importantly, how will children have meta-cognitive prowess to explore deeper questions to ponder and seek solutions to problems not yet known?

Contacts

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  - Executive Director, AAGC E-mail: meg43@duke.edu
  - Web Site: www.aagc.org

- **Co-Designer: Mary "Valorie" Hargett, Retired, NCDPI, and Educational Consultant** E-mail: vhargett@carolina.rr.com

- **Evaluator: Ron Tzur, Ph.D., Professor, Research and Mathematics Departments, University of Denver** E-mail: RonTzur@ucdenver.edu

- **Research Assistant: Rachael Kenney, Ph.D., Professor, Mathematics Department, Purdue University** E-Mail: rhkenney@purdue.edu

Bright IDEA Web Links

- www.dpi.state.nc.us/ec Project Bright IDEA (Exceptional Children Division), NCDPI
- www.aagc.org (The American Association for Gifted Children) - Duke University; Duke Office Hours & Links: http:// is.gd/Duke_IDEA
- http://is.gd/a2vu3 *NC Now*, UNCTV on March 1, 2010
- http://flash.unctv.org/ncnow/ncn_mwatson_wdarity_030110.html

  Mary Watson, Director, Exceptional Children Division, North Carolina Department of Public Instruction and Principal Investigator, Project Bright IDEA and Dr. William A. Darity, Arts & Sciences Professor of Public Policy Studies, Professor of African and African-American Studies and Economics at Duke University and Board Member of The American Association for Gifted Children discuss, Project Bright IDEA, and the rationale for the research on.
- http://is.gd/Leonardo, The Dreamer, A debate by 1st and 2nd graders on Leonardo and Michelangelo and the greatest creator of their time.

Evaluation of Goals for Project Bright IDEA
A Jacob Javits Research Program funded by the US Department of Education

Submitted by Ron Tzur, Ph.D., Research Professor – External Evaluator

Rachael Kenney, Ph.D. Professor, Mathematics, Purdue University – Research Assistant – 2004-2010

I. Goal of Outside Evaluation

To serve as the External Evaluator for Project Bright IDEA 2 funded by the Javits Award from the U.S. Department of Education.

II. Purpose:

To provide formative and summative information about the:
1) project goals; 2) nature/quality of project activities; and 3) goal accomplishments

A. Overarching Project Goal: Create a model program for closing achievement gap among AIG students. [Importance: Conceptualizing notion of 'model' program for preparing teachers.]

Five Questions

1) Are project goals comprehensive and focused enough? [Compare with literature; Use expert focus group.]

2) Are project goals well grounded? [Compare with literature; Examine need assessment.]

3) To what extent are project goals unique and scalable? [Compare with similar projects and with literature.]

4) How do project personnel and participants understand/interpret the goals? [Questionnaire (every participating teacher) by end of each summer institute; Semi-structured interviews (project personnel, administrators, teachers)

5) To what extent do personnel/ participants adhere to the goals? [Participant observation (project staff meetings, summer institute, classrooms]

B. Project Activities: Crucial regardless of goal accomplishment. [No one-to-one correspondence, e.g., time needed for change]

At issue: Are activities consistent with project's goals? How do administrators impact teachers' learning/implementation?

Three Questions

1) Why are specific activities selected? Focus-Group Interviews. [Summer institute instructors]

2) What is the nature and quality of institutes for teacher enhancement? [Participant Observation (day/institute); Artifacts (handouts, teachers' work; End-of-Institute Questionnaire; Semi-Structured Interviews.]

3) What is the nature and quality of site visits? [Semi-Structured Interviews with personnel; Site Observations; Open-Ended Interviews with teachers.]

C, Project Outcomes: Focus on relationship: teacher learn –> teacher implement –> student change (stress – conceptual.

Two Questions

1) Is number of gifted students from underrepresented groups increased? Project instruments: Problem-Based Questionnaire/Head Count

2) Is this increase related to teacher understanding and implementation of the intervention program? Project instruments (above correlated with Teacher Disposition Questionnaire) and Qualitative data sets [entry interviews, class observations, interviews throughout the training, and consecutive class visits and exit interviews.)

D. Feedback and Report:

1. A Formative Evaluation to project personnel: 1) informal face-to-face, e-mail, phone; 2) four-hour meetings with co-investigators (2/year) and 3) written report by September 1.

2. A Summative Evaluation to funding agency/personnel with a written report (up to 90 days after project ends).

E. Instruments Developed and Validated

1) Educator Disposition Questionnaire - Administered November 2004 and June 2005 to First Cohort

2) Math Problem Based Questionnaire - To be administered in 2006

3) The Evaluator's Questionnaire: Developed and administered at the end of Summer Institute June 2005 and will be administered for each training session in school year 2005-2006.

Gifted Intelligent Behaviors for 21st Century Learners

The Alignment of
Habits of Mind,
Art Costa and Bena Kallick
with
Talents, Attributes and Behaviors,
Mary Frasier

***Project Bright IDEA:* Interest Development Early Abilities**

A Jacob Javits Gifted Education Program
Funded by
The U.S. Department of Education
2004-2009

PUBLIC SCHOOLS OF NORTH CAROLINA
State Board of Education | Department of Public Instruction | Exceptional Children Division

AMERICAN ASSOCIATION FOR GIFTED CHILDREN
Duke University

Growth Potential Charts of Gifted Intelligent Behaviors for Cohort 1 Students during School Year 2005-2006

The Gifted Intelligent Behavior Charts are based on the results of teaching concept-based units to K-2 students and conducting a pre and post assessment on infused gifted intelligent behaviors identified in each unit. (See Attachment I, Pre and Post Assessment Units.) Results of Cohort 2 School Districts will be available in July 2007. Cohort 3 School Districts will receive training in March 2007 and results will be available in July 2008. Data will continue to be collected through 2009.

Cohort 1 Bright IDEA II School Districts:
Guilford County | Hickory City | Lenoir County | Moore County
Roanoke Rapids Graded School District |Wake County

With Grateful Appreciation to the Consultants to Bright IDEA:

Training on Habits of Mind (HOM) for Cohort 1 Teachers, Principals and AIG Coordinators was conducted by Art Costa and Bena Kallick on April 27-29, 2005 and training for Cohort 2 took place on April 26-28, 2006.

Training on Talents, Attributes and Behaviors (TABÕs) for participants in the Bright IDEA pilot program was conducted by Mary Frasier during 2002 and 2003 and she was scheduled to train Cohort 1 participants at the time of her death.

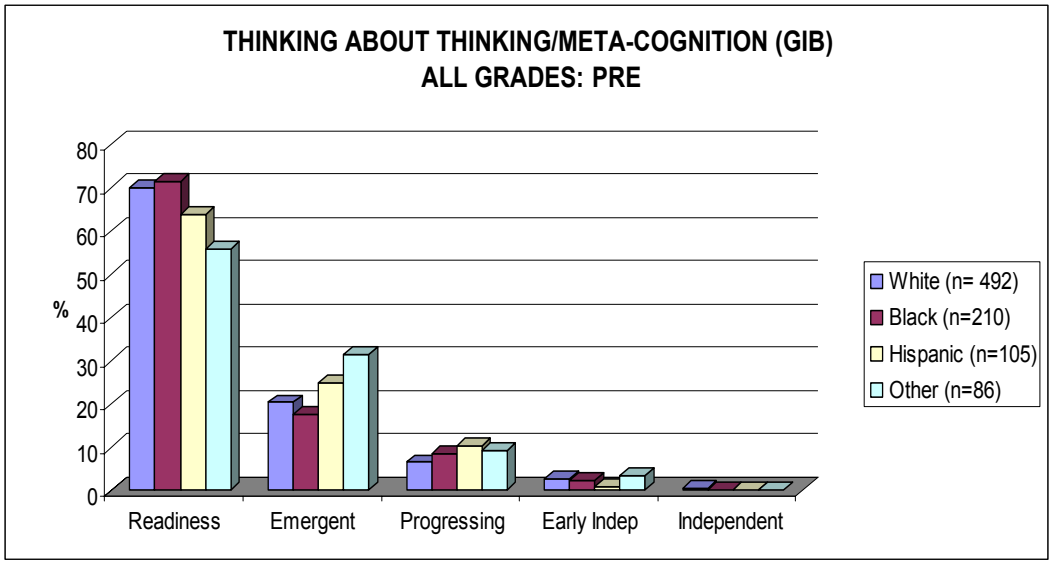
Valorie Hargett, Co-Principal Investigator and Trainer for Bright IDEA, designed the ŅoverlayingÓ of selected HOM and TABÕs to create the Gifted Intelligent Behaviors (GIBÕs) for K-2 Students.

Teachers, principals and AIG Coordinators developed the Pre and Post Assessment Units and Rubrics during the pilot program 2002-2004.

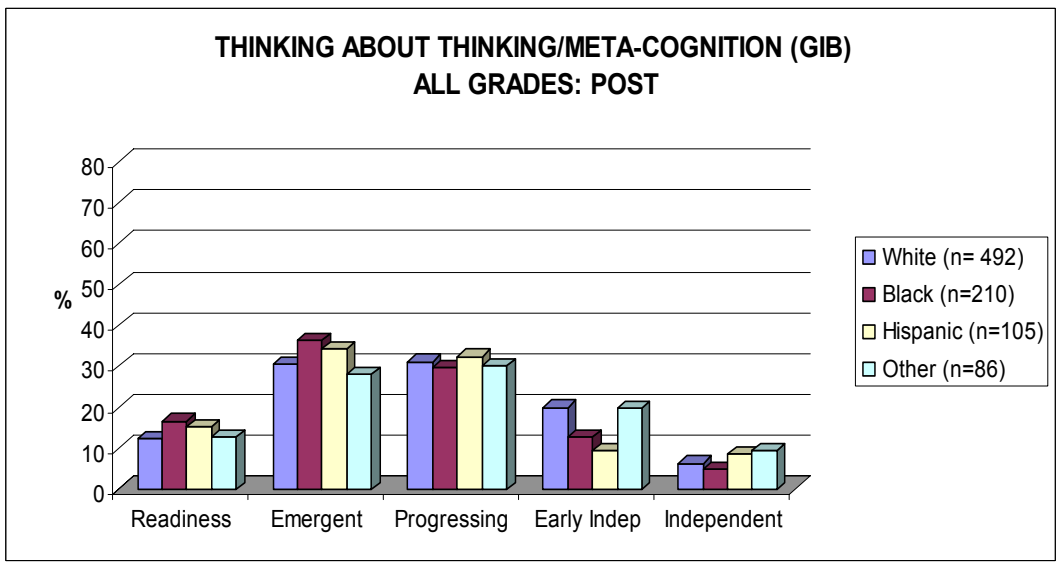
Pilot Project Bright IDEA I School Districts:
Henderson County | New Hanover County | Stanly County
Thomasville City Schools | Wake County

Funding for the Pilot Project:
North Carolina Department of Public Instruction:
Exceptional Children Division | Raising Achievement and Closing Gaps Division

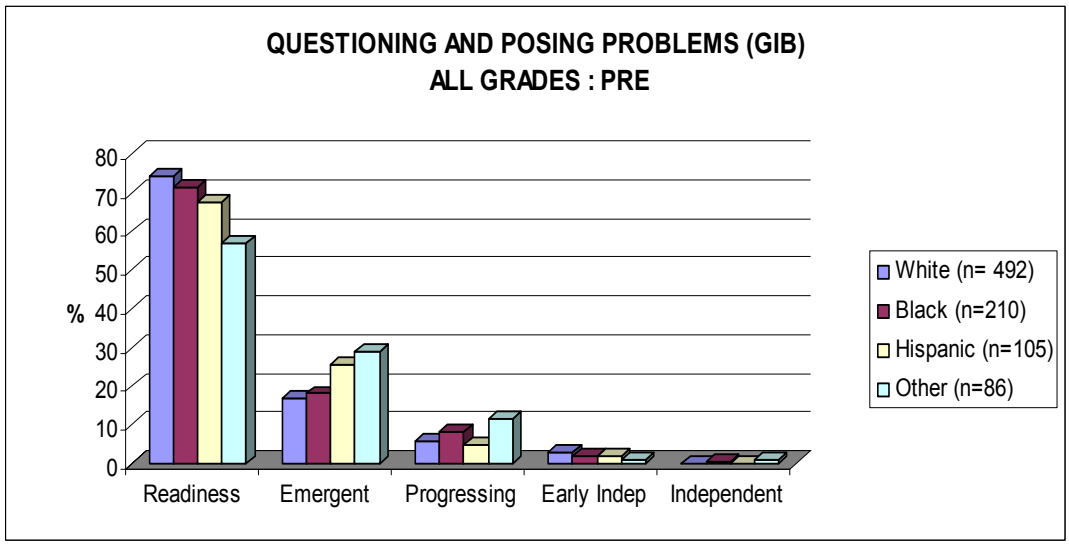
The American Association for Gifted Children at Duke University
(See Project Bright IDEA 1 Final Report, May 2005, www.aagc.org)



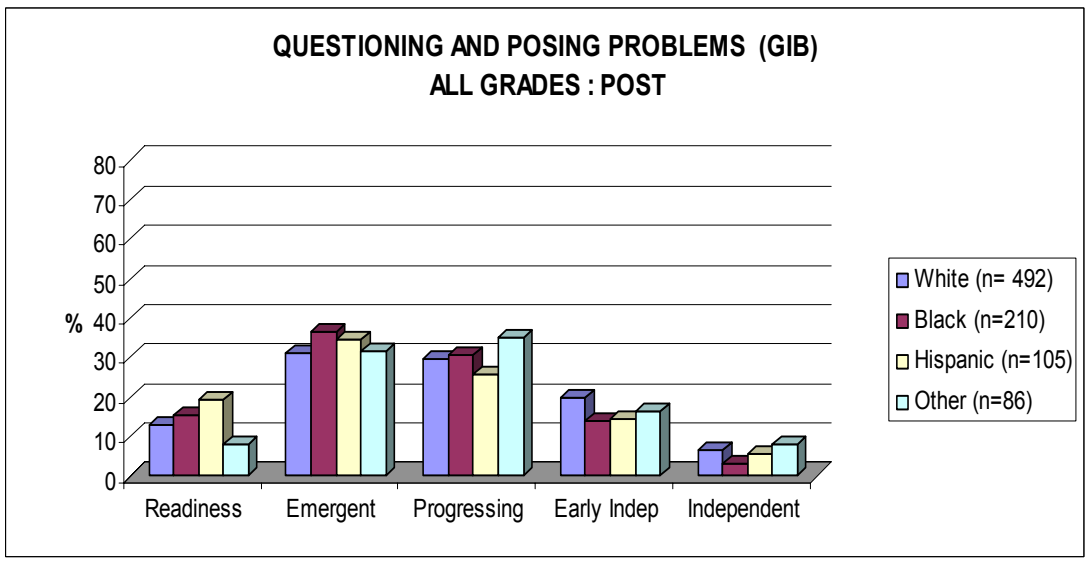
% of Students:	Readiness	Emergent	Progressing	Early Indep	Independent
White (n= 492)	70.12	20.33	6.50	2.64	0.41
Black (n=210)	71.43	17.62	8.57	2.38	0.00
Hispanic (n=105)	63.81	24.76	10.48	0.95	0.00
Other (n=86)	55.81	31.40	9.30	3.49	0.00



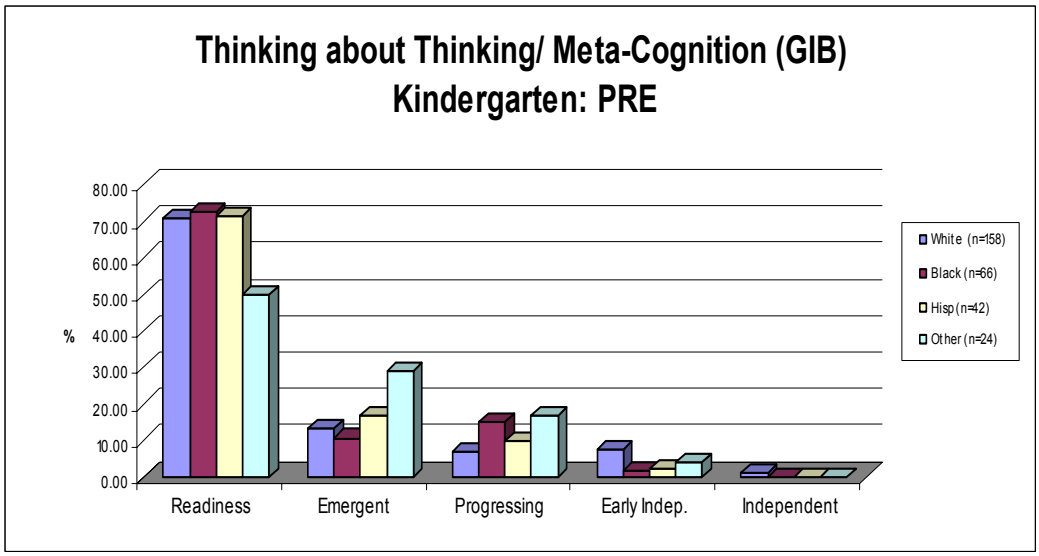
% of Students	Readiness	Emergent	Progressing	Early Indep	Independent
White (n= 492)	12.2	30.5	31.1	19.9	6.3
Black (n=210)	16.7	36.2	29.5	12.9	4.8
Hispanic (n=105)	15.2	34.3	32.4	9.5	8.6
Other (n=86)	12.8	27.9	30.2	19.8	9.3



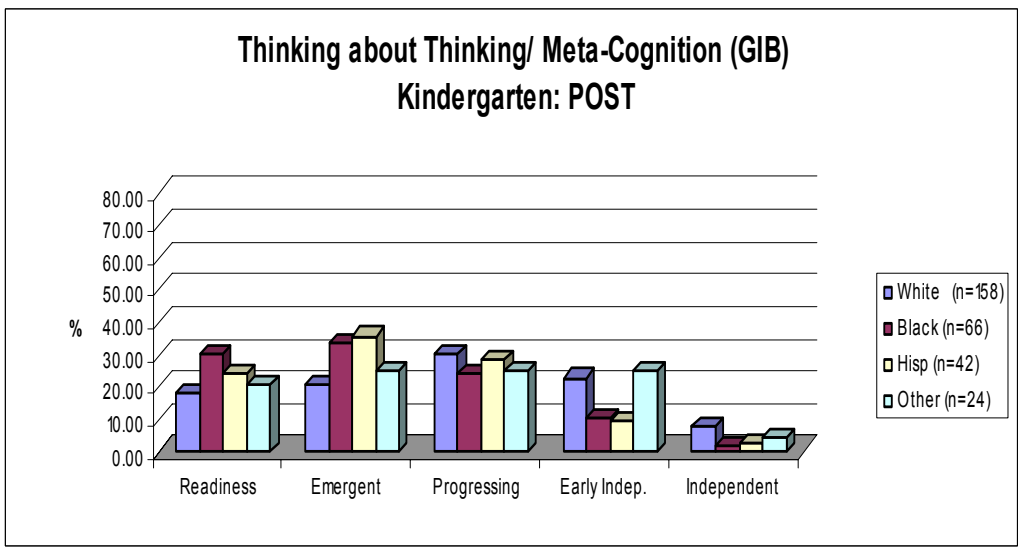
% of Students	Readiness	Emergent	Progressing	Early Indep	Independent
White (n= 492)	74.13	16.90	5.70	3.05	0.20
Black (n=210)	71.43	18.10	8.10	1.90	0.48
Hispanic (n=105)	67.62	25.71	4.76	1.90	0.00
Other (n=86)	56.98	29.07	11.63	1.16	1.16



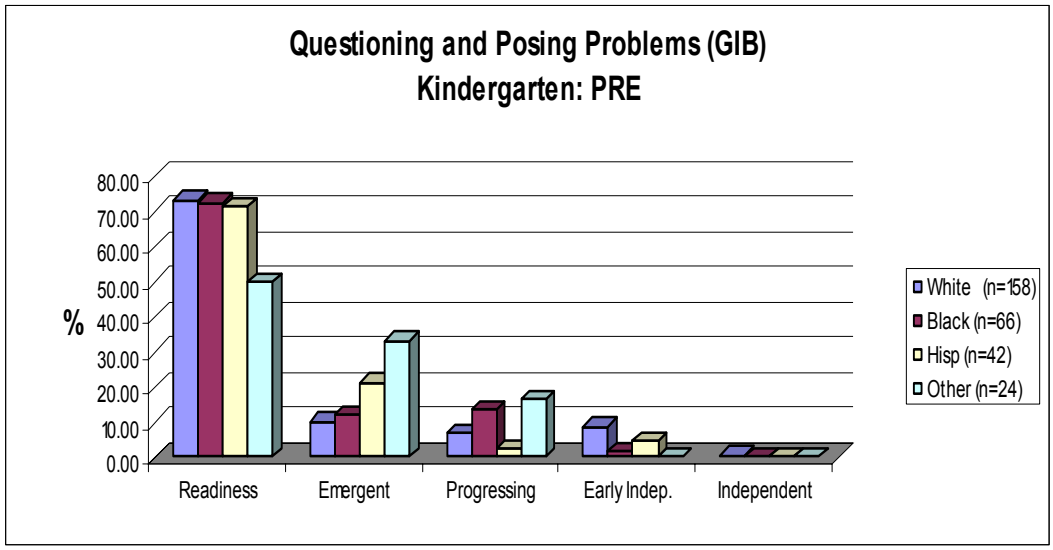
% of Students	Readiness	Emergent	Progressing	Early Indep	Independent
White (n= 492)	12.76	31.38	29.50	19.67	6.69
Black (n=210)	15.53	36.41	30.58	14.08	3.40
Hispanic (n=105)	19.23	34.62	25.96	14.42	5.77
Other (n=86)	8.24	31.76	35.29	16.47	8.24



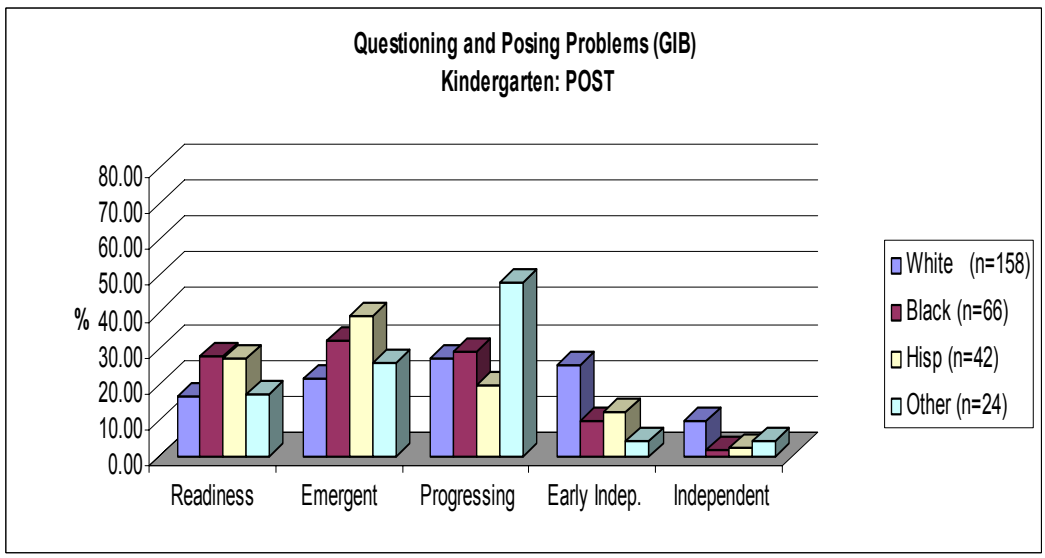
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=158)	70.89	13.29	6.96	7.59	1.27
Black (n=66)	72.73	10.61	15.15	1.52	0.00
Hisp (n=42)	71.43	16.67	9.52	2.38	0.00
Other (n=24)	50.00	29.17	16.67	4.17	0.00



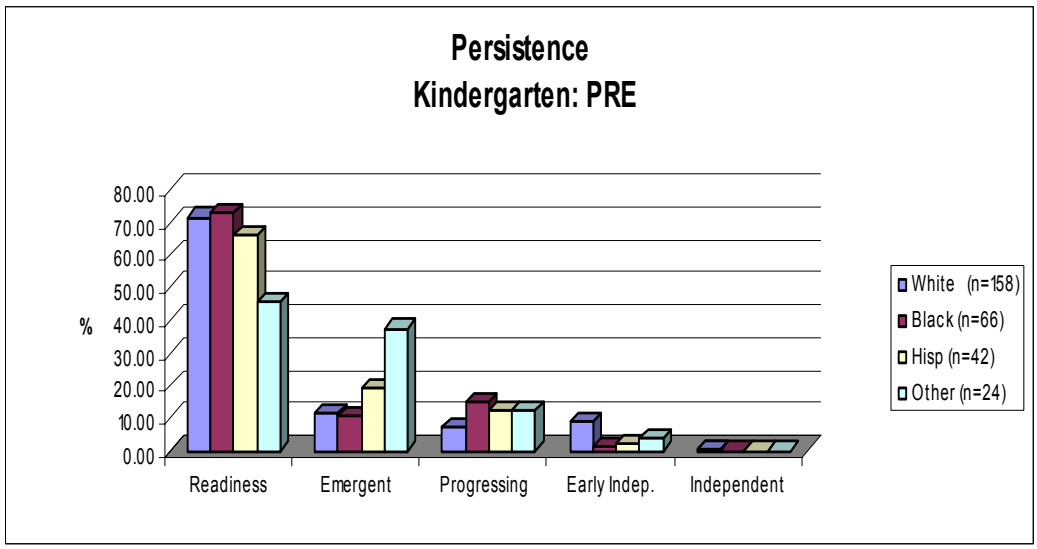
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=158)	18.35	20.89	30.38	22.78	7.59
Black (n=66)	30.30	33.33	24.24	10.61	1.52
Hisp (n=42)	23.81	35.71	28.57	9.52	2.38
Other (n=24)	20.83	25.00	25.00	25.00	4.17



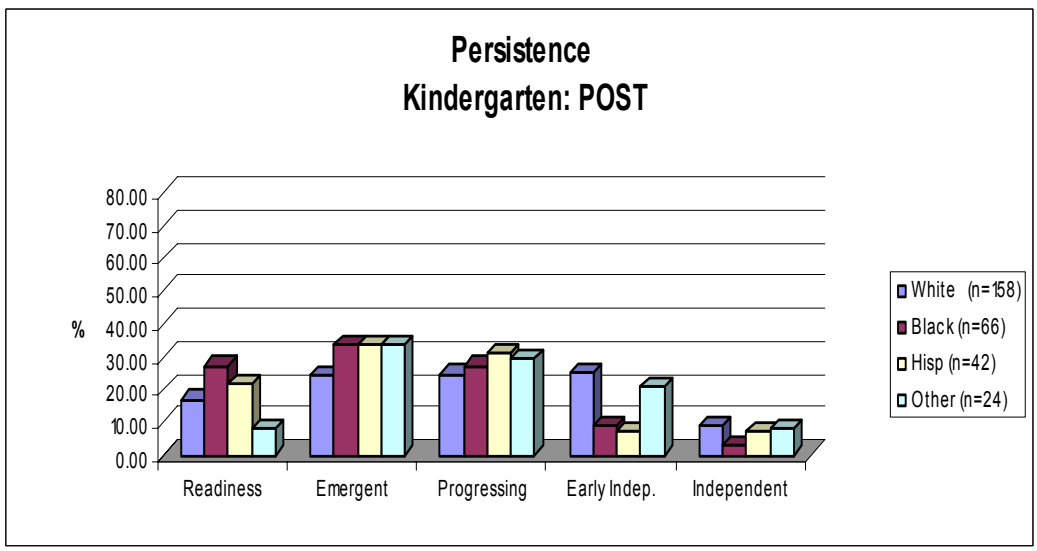
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=158)	73.42	10.13	6.96	8.86	0.63
Black (n=66)	72.73	12.12	13.64	1.52	0.00
Hisp (n=42)	71.43	21.43	2.38	4.76	0.00
Other (n=24)	50.00	33.33	16.67	0.00	0.00



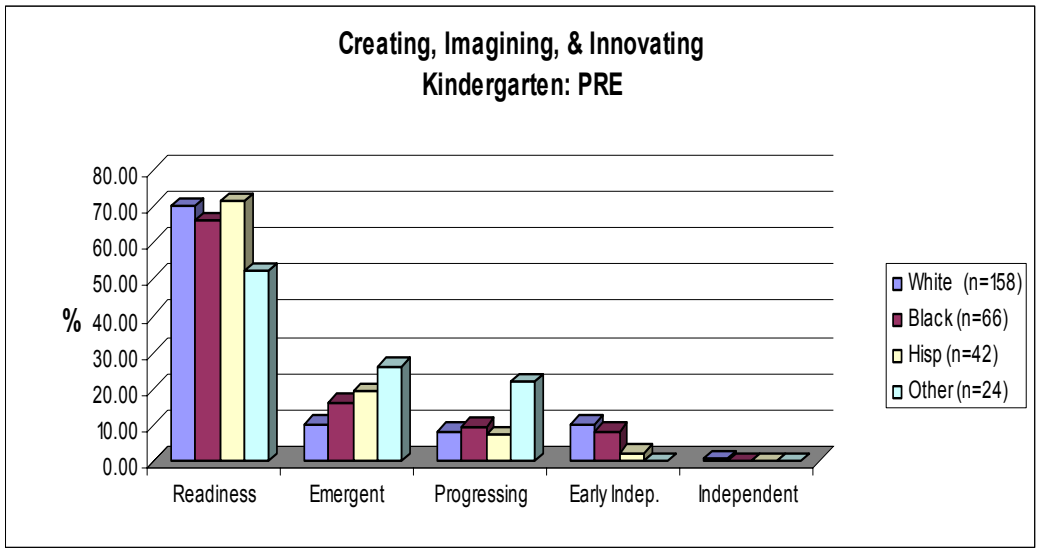
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=158)	16.67	21.53	27.08	25.00	9.72
Black (n=66)	27.42	32.26	29.03	9.68	1.61
Hisp (n=42)	26.83	39.02	19.51	12.20	2.44
Other (n=24)	17.39	26.09	47.83	4.35	4.35



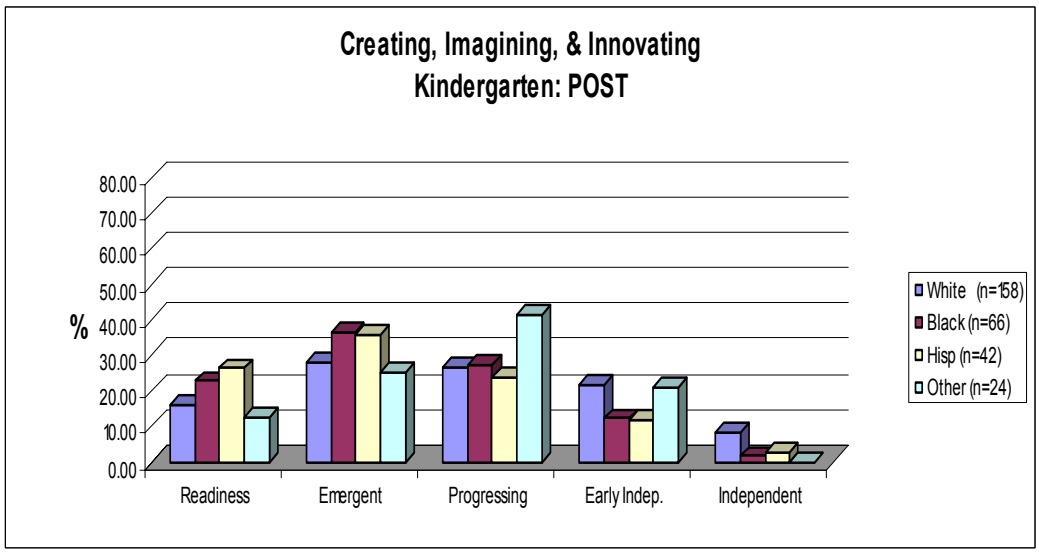
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=158)	71.52	11.39	7.59	8.86	0.63
Black (n=66)	72.73	10.61	15.15	1.52	0.00
Hisp (n=42)	65.85	19.51	12.20	2.44	0.00
Other (n=24)	45.83	37.50	12.50	4.17	0.00



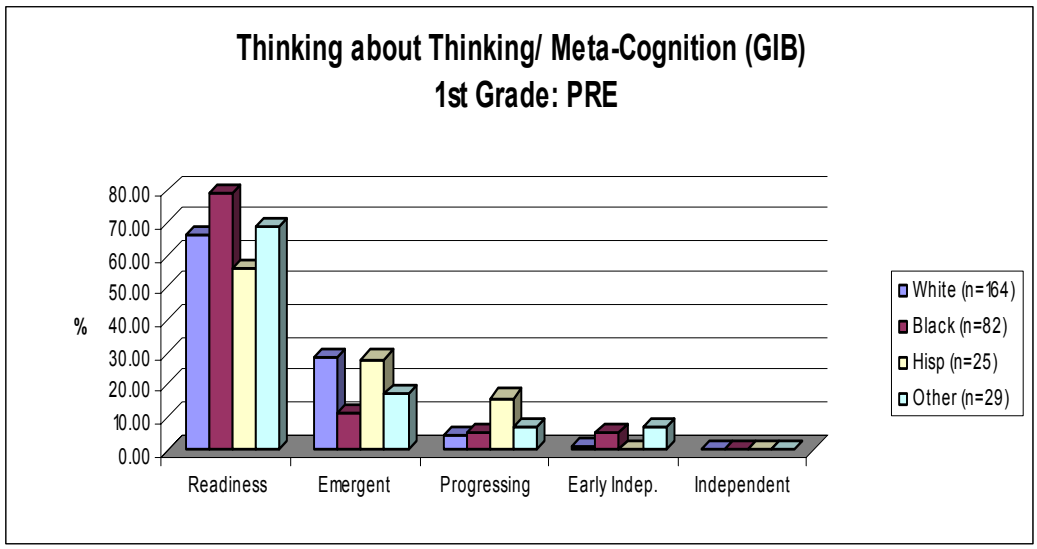
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=158)	17.09	24.05	24.68	25.32	8.86
Black (n=66)	27.27	33.33	27.27	9.09	3.03
Hisp (n=42)	21.43	33.33	30.95	7.14	7.14
Other (n=24)	8.33	33.33	29.17	20.83	8.33



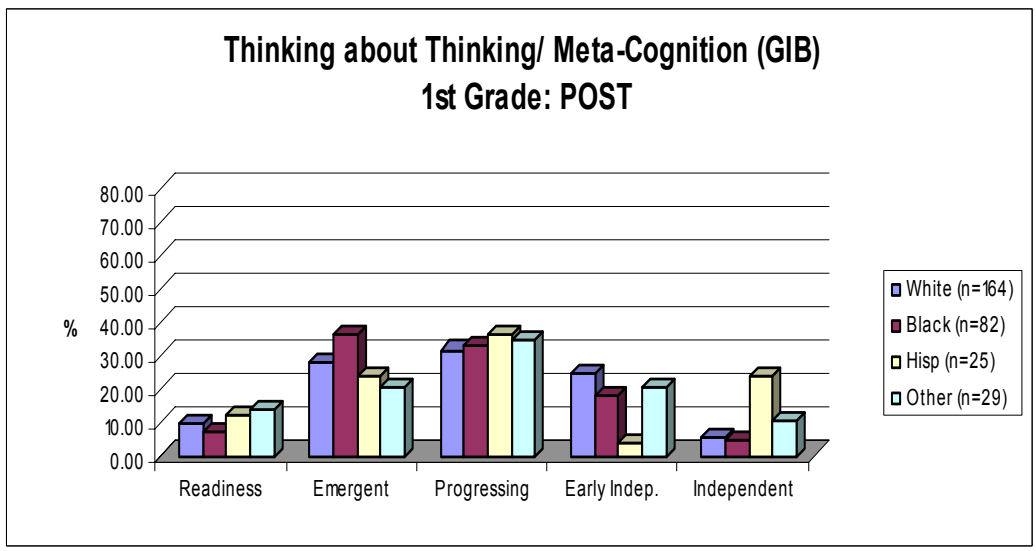
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=158)	70.14	10.42	8.33	10.42	0.69
Black (n=66)	66.13	16.13	9.68	8.06	0.00
Hisp (n=42)	71.43	19.05	7.14	2.38	0.00
Other (n=24)	52.17	26.09	21.74	0.00	0.00



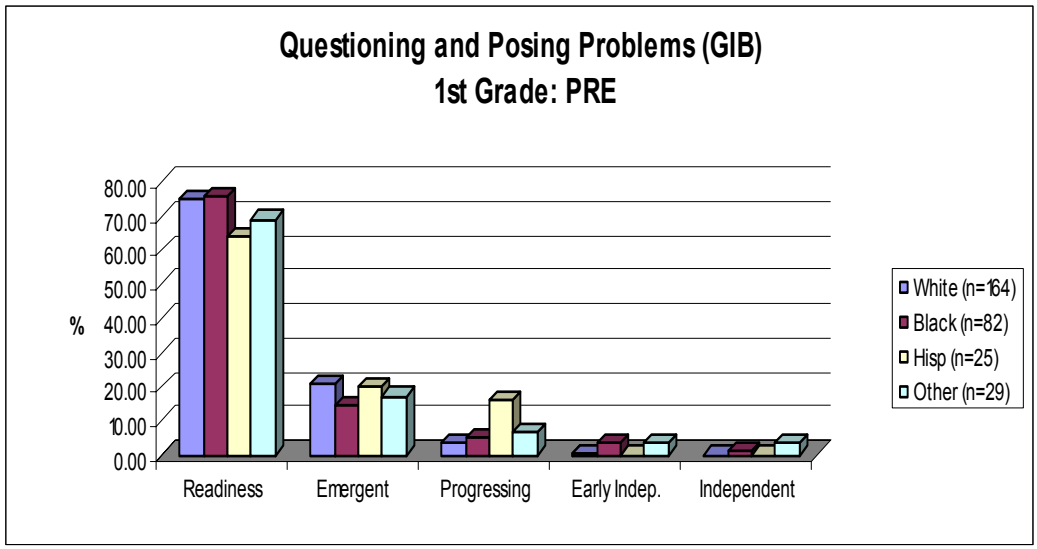
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=158)	15.82	27.85	26.58	21.52	8.23
Black (n=66)	22.73	36.36	27.27	12.12	1.52
Hisp (n=42)	26.19	35.71	23.81	11.90	2.38
Other (n=24)	12.50	25.00	41.67	20.83	0.00



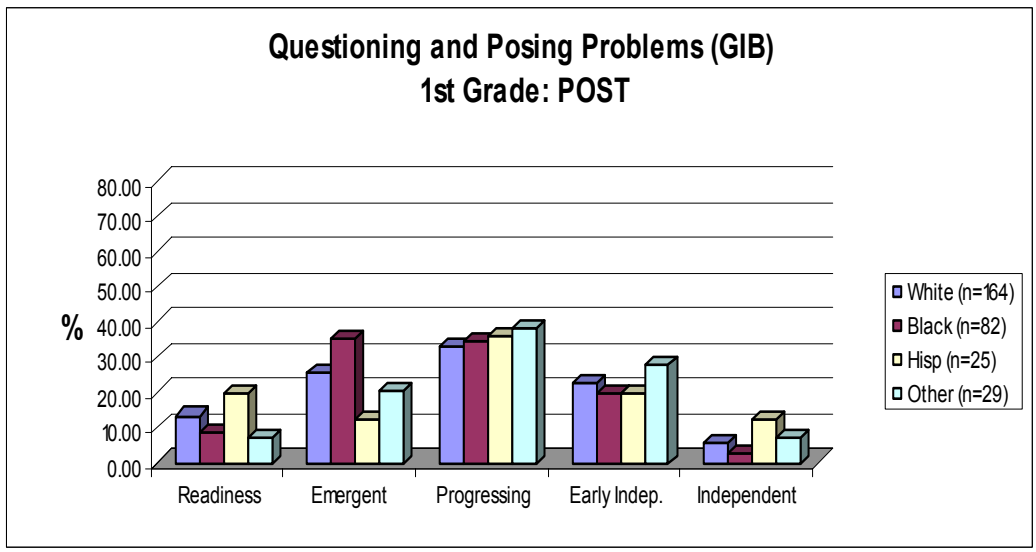
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=164)	66.46	28.66	4.27	0.61	0.00
Black (n=82)	79.27	10.98	4.88	4.88	0.00
Hisp (n=25)	56.00	28.00	16.00	0.00	0.00
Other (n=29)	68.97	17.24	6.90	6.90	0.00



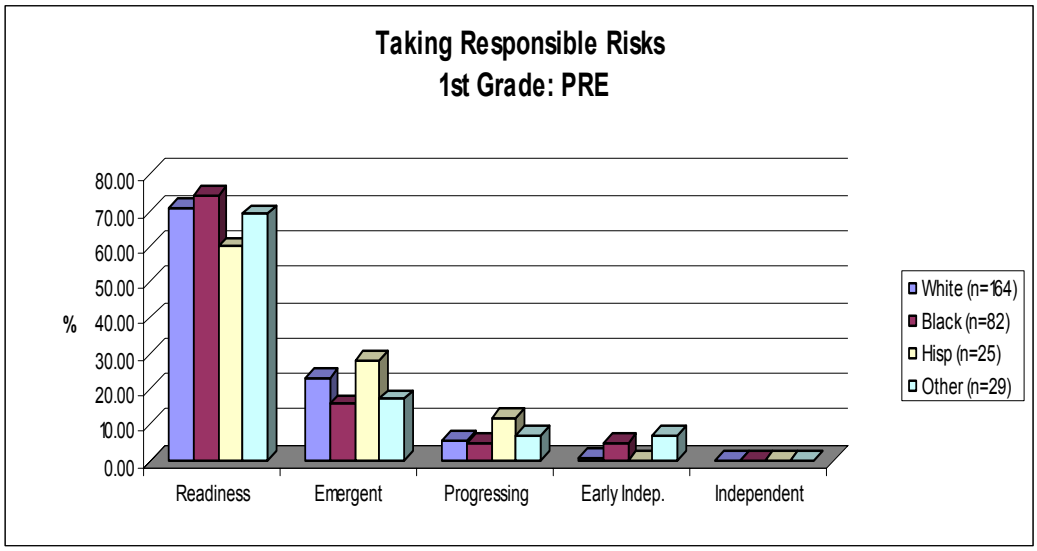
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=164)	9.76	28.05	31.71	25.00	5.49
Black (n=82)	7.32	36.59	32.93	18.29	4.88
Hisp (n=25)	12.00	24.00	36.00	4.00	24.00
Other (n=29)	13.79	20.69	34.48	20.69	10.34



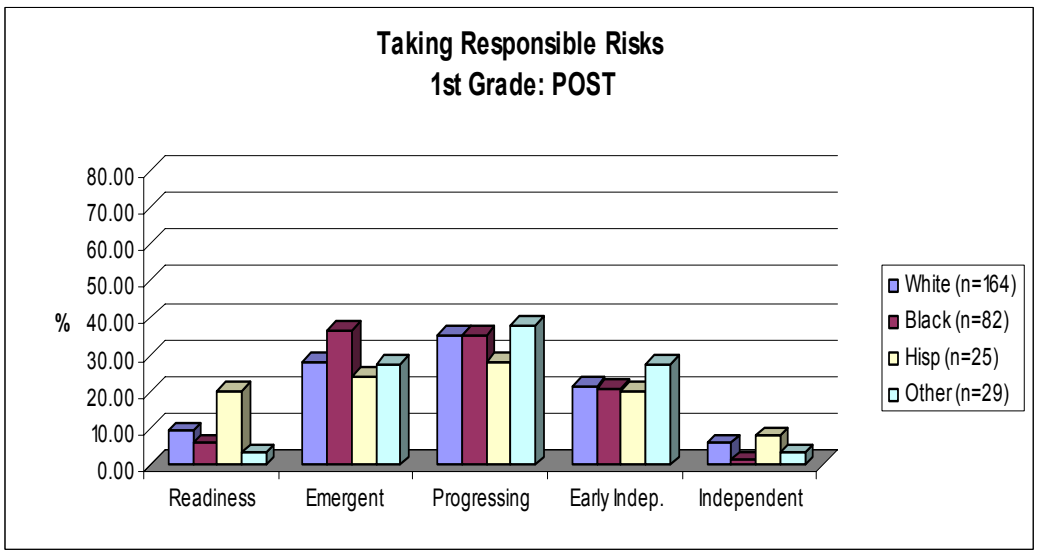
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=164)	75.00	20.73	3.66	0.61	0.00
Black (n=82)	75.61	14.63	4.88	3.66	1.22
Hisp (n=25)	64.00	20.00	16.00	0.00	0.00
Other (n=29)	68.97	17.24	6.90	3.45	3.45



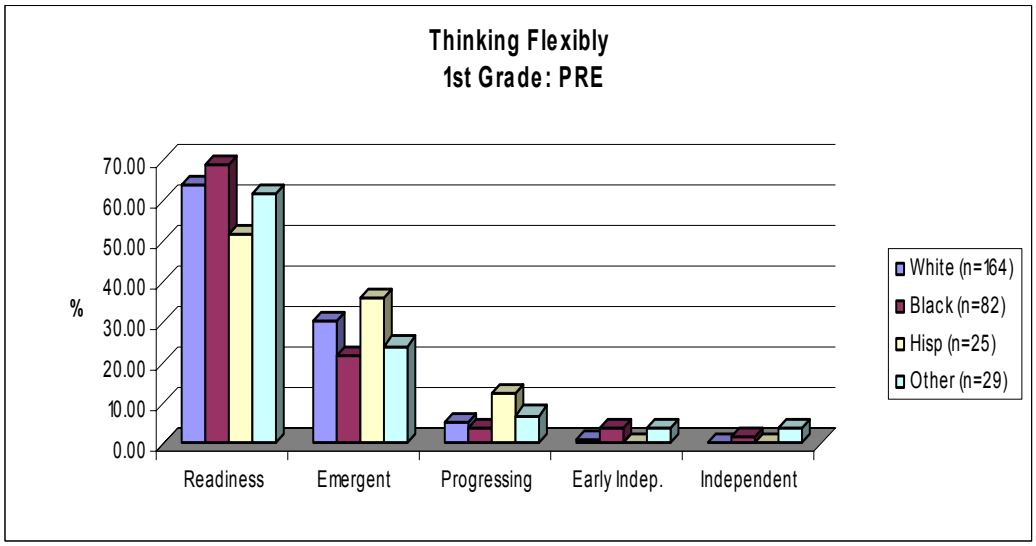
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=164)	13.41	25.61	32.93	22.56	5.49
Black (n=82)	8.54	35.37	34.15	19.51	2.44
Hisp (n=25)	20.00	12.00	36.00	20.00	12.00
Other (n=29)	6.90	20.69	37.93	27.59	6.90



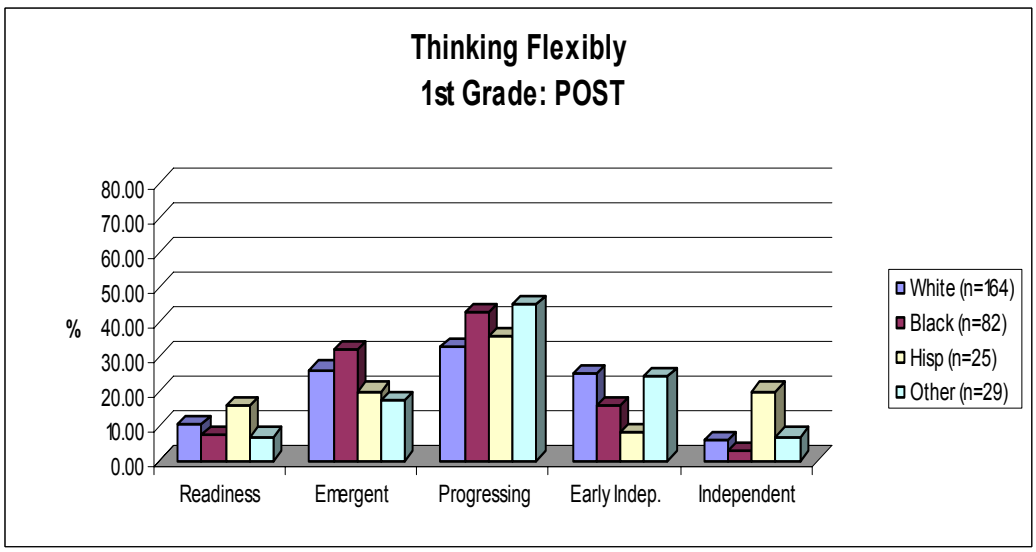
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=164)	70.73	23.17	5.49	0.61	0.00
Black (n=82)	74.39	15.85	4.88	4.88	0.00
Hisp (n=25)	60.00	28.00	12.00	0.00	0.00
Other (n=29)	68.97	17.24	6.90	6.90	0.00



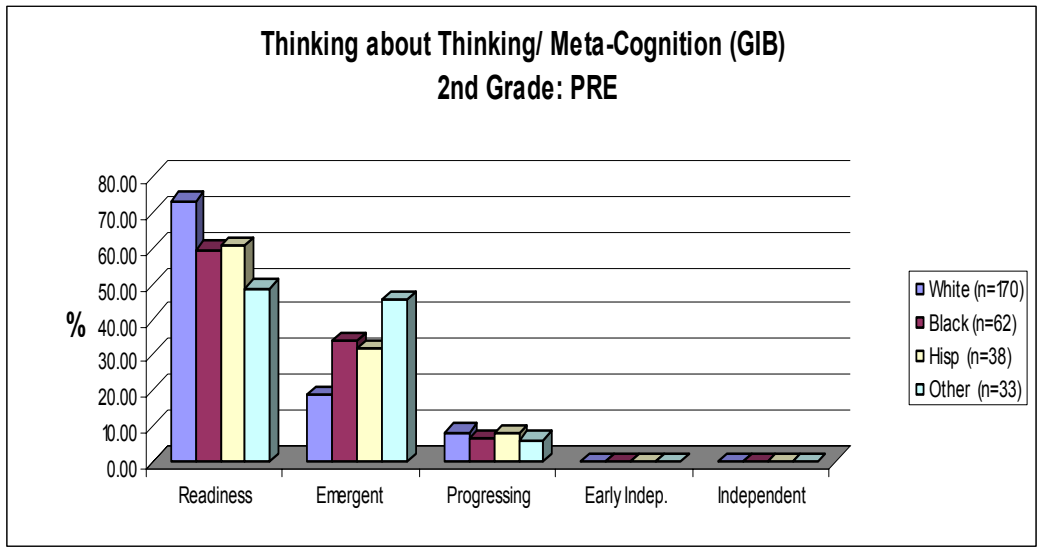
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=164)	9.15	28.05	35.37	21.34	6.10
Black (n=82)	6.10	36.59	35.37	20.73	1.22
Hisp (n=25)	20.00	24.00	28.00	20.00	8.00
Other (n=29)	3.45	27.59	37.93	27.59	3.45



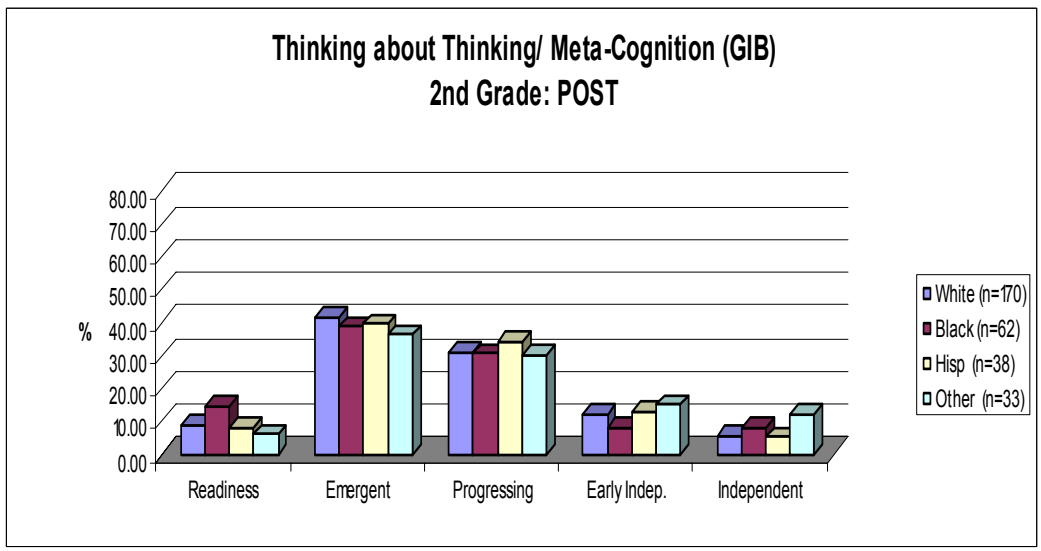
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=164)	64.02	30.49	4.88	0.61	0.00
Black (n=82)	69.51	21.95	3.66	3.66	1.22
Hisp (n=25)	52.00	36.00	12.00	0.00	0.00
Other (n=29)	62.07	24.14	6.90	3.45	3.45



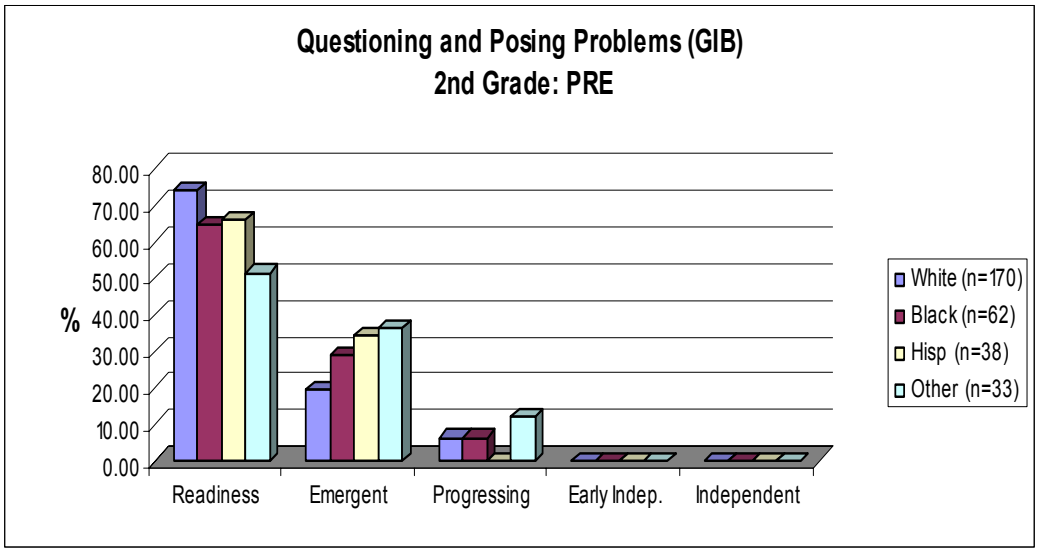
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=164)	10.37	26.22	32.93	25.00	5.49
Black (n=82)	7.32	31.71	42.68	15.85	2.44
Hisp (n=25)	16.00	20.00	36.00	8.00	20.00
Other (n=29)	6.90	17.24	44.83	24.14	6.90



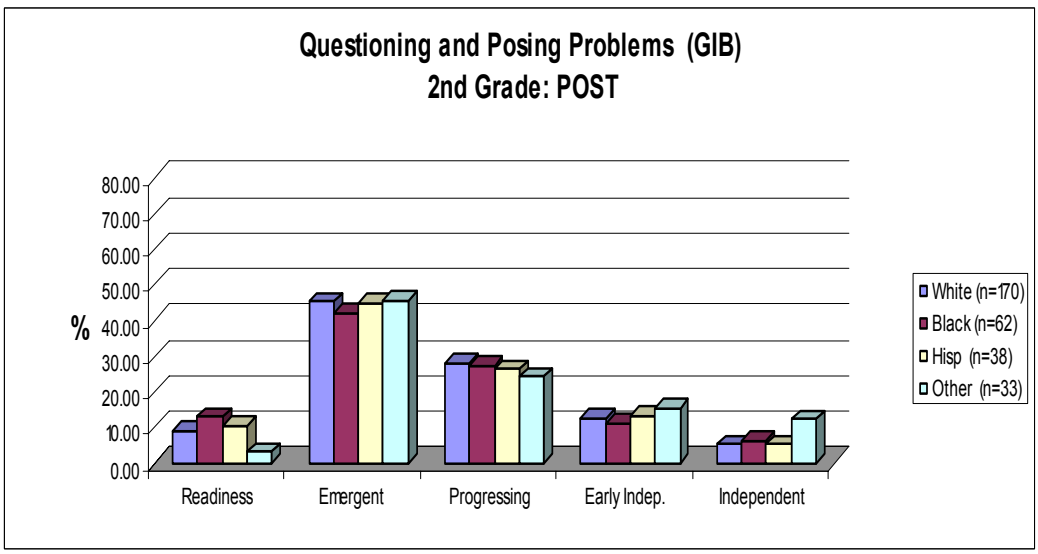
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=170)	72.94	18.82	8.24	0.00	0.00
Black (n=62)	59.68	33.87	6.45	0.00	0.00
Hisp (n=38)	60.53	31.58	7.89	0.00	0.00
Other (n=33)	48.48	45.45	6.06	0.00	0.00



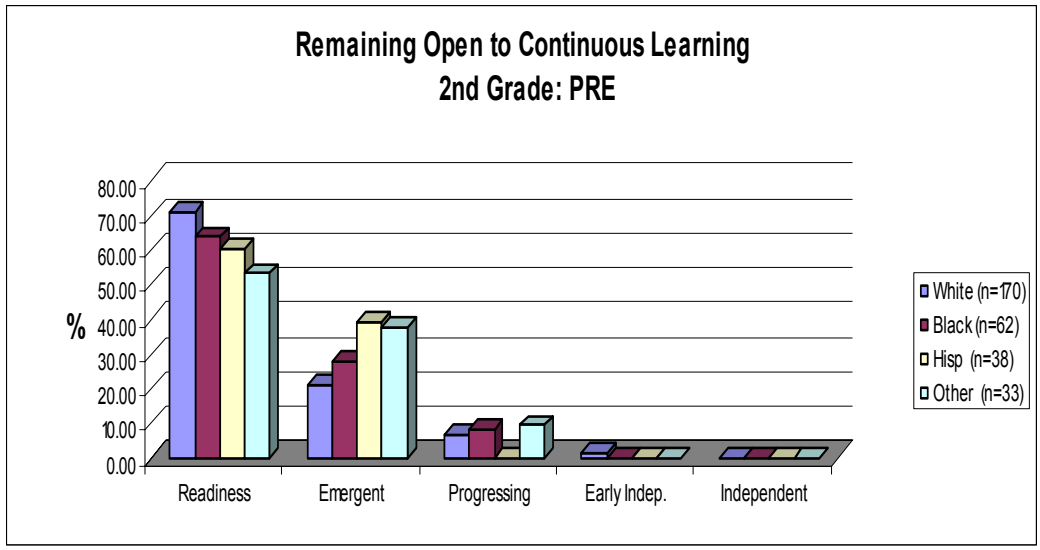
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=170)	8.82	41.76	31.18	12.35	5.88
Black (n=62)	14.52	38.71	30.65	8.06	8.06
Hisp (n=38)	7.89	39.47	34.21	13.16	5.26
Other (n=33)	6.06	36.36	30.30	15.15	12.12



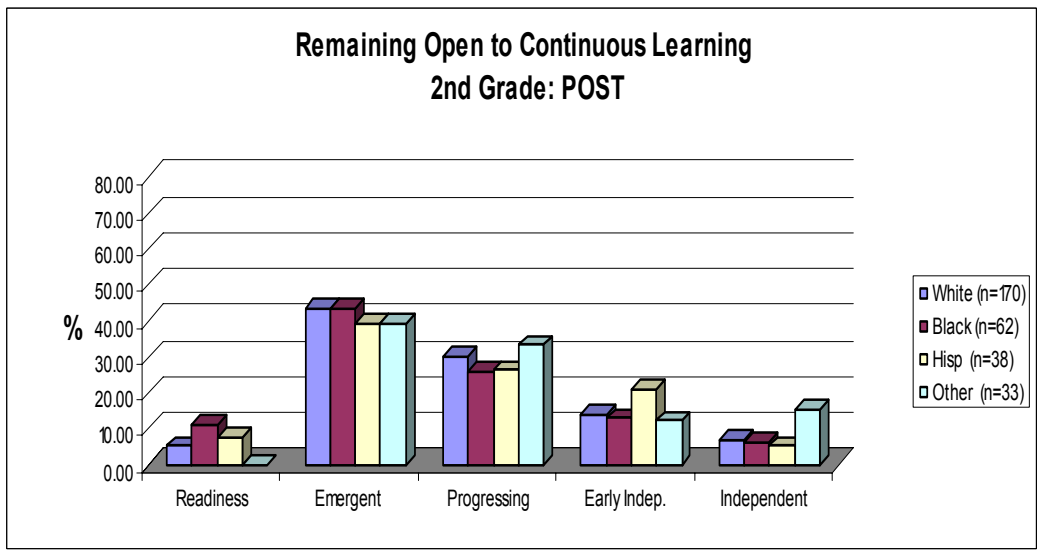
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=170)	73.96	19.53	6.51	0.00	0.00
Black (n=62)	64.52	29.03	6.45	0.00	0.00
Hisp (n=38)	65.79	34.21	0.00	0.00	0.00
Other (n=33)	51.52	36.36	12.12	0.00	0.00



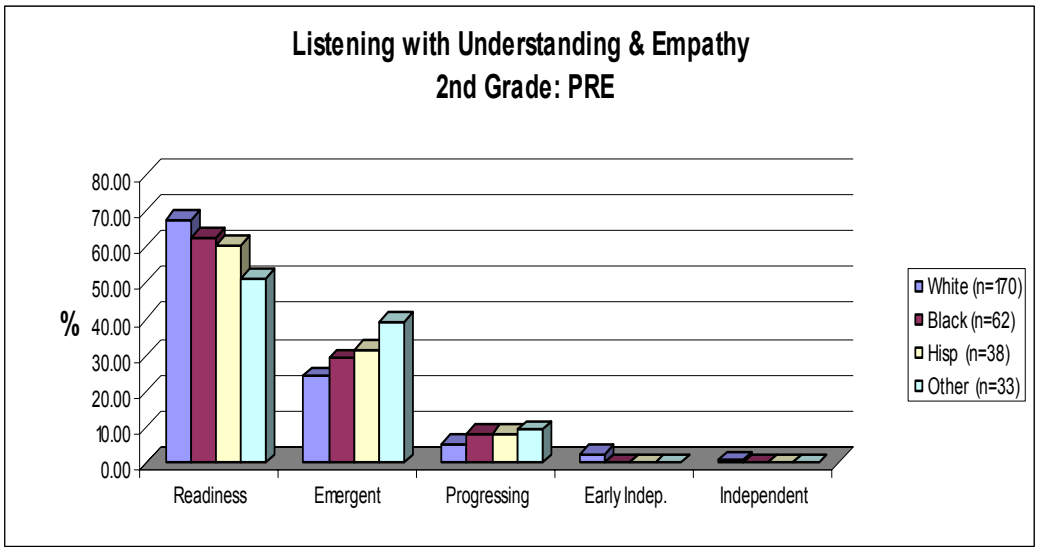
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=170)	8.82	45.29	28.24	12.35	5.29
Black (n=62)	12.90	41.94	27.42	11.29	6.45
Hisp (n=38)	10.53	44.74	26.32	13.16	5.26
Other (n=33)	3.03	45.45	24.24	15.15	12.12



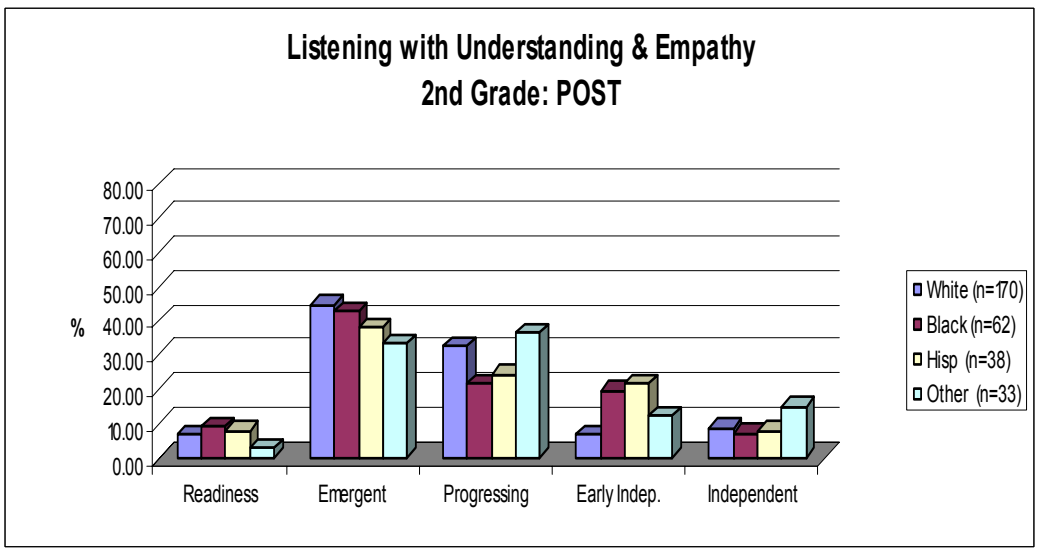
% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=170)	71.18	21.18	6.47	1.18	0.00
Black (n=62)	63.93	27.87	8.20	0.00	0.00
Hisp (n=38)	60.53	39.47	0.00	0.00	0.00
Other (n=33)	53.13	37.50	9.38	0.00	0.00



% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=170)	5.29	43.53	30.00	14.12	7.06
Black (n=62)	11.29	43.55	25.81	12.90	6.45
Hisp (n=38)	7.89	39.47	26.32	21.05	5.26
Other (n=33)	0.00	39.39	33.33	12.12	15.15



% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=170)	67.65	24.12	5.29	2.35	0.59
Black (n=62)	62.90	29.03	8.06	0.00	0.00
Hisp (n=38)	60.53	31.58	7.89	0.00	0.00
Other (n=33)	51.52	39.39	9.09	0.00	0.00



% of Students	Readiness	Emergent	Progressing	Early Indep.	Independent
White (n=170)	7.01	44.59	32.48	7.01	8.92
Black (n=62)	8.93	42.86	21.43	19.64	7.14
Hisp (n=38)	8.11	37.84	24.32	21.62	8.11
Other (n=33)	3.03	33.33	36.36	12.12	15.15

Gifted Intelligent Behaviors (GIBs) – Multicultural Literature Units – Attachment I
Project Bright IDEA 2 – A Javits Research Program funded by the US Department of Education

All Grade Levels focus on these three plus the grade level GIBs:

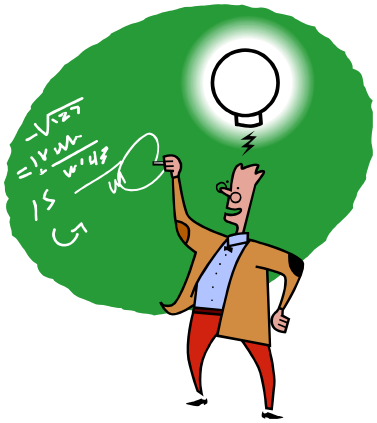
- Thinking About Thinking/Meta-cognition (Reasoning and Memory-TABs)
- Questioning and Posing Problems (Problem Solving/Inquiry-TABs)
- Finding Humor (TAB)

Grade	Literature Unit – Pre Assessment	Date for Pre by	Literature Unit – Post Assessment	Date for Post by	How to Report
K	***Jingle Dancer*** **Persistence** (Motivation-TAB) **Creating, Imagining & Innovating** (Imagination-TAB)	November 15	***Down the Road*** **Persistence** (Motivation-TAB) **Creating, Imagining & Innovating** (Imagination-TAB)	**May 1**	Individual Rubrics Electronically & on a CD Rom to State by January 1 & June 1
First	***Joseph Had a Little Overcoat*** **Taking Responsible Risks** (Problem-Solving-TAB) **Thinking Flexibly** (Reasoning-Solving-TABs) **Thinking and Communicating with Clarity and Precision** (Communication-TAB)	**November 15**	***Sophie's Masterpiece*** **Taking Responsible Risks** (Problem Solving-TAB) **Thinking Flexibly** (Reasoning-Solving-TABs) **Thinking and Communicating with Clarity and Precision** (Communication-TAB)	**May 1**	**Individual Rubrics** **Electronically & on a CD Rom to state by January 1 and June 1**
Second	**Yonder Mountain** **Remaining Open to Continuous Learning** (Interest – TAB) **Listening with Understanding and Empathy** (Interpersonal, Intrapersonal and Insight -TABs) **Applying Past Knowledge to New Situations** (Insight-TAB)	**November 15**	**Caged Birds of Phnom Penh** **Remaining Open to Continuous Learning** (Interest – TAB) **Listening with Understanding and Empathy** (Interpersonal, Intrapersonal and Insight - TABs) **Applying Past Knowledge to New Situations** (Insight-TAB)	**May 1**	**Individual Rubrics** **Electronically and & on a CD Rom to state by January 1 and June 1**

HOM – Selected Habits of Mind by Art Costa and Bena Kallick TABs – Traits, Attributes and Behaviors by Mary Frasier

Project Bright IDEA 2: Interest Development Early Abilities

A Jacob Javits Gifted Education Program
Funded by the US Department of Education
2004-2009



Rubrics

North Carolina Department of Public Instruction
Exceptional Children Division
Academically or Intellectually Gifted Program

The American Association For Gifted Children at Duke University

Readiness Exploratory/Discovery (IBs Explored & Sporadically Demonstrated)
Early Emergent/Emergent (IBs Ocassionally Demonstrated by acquiring & integrating knowledge through application)
Progressing (IBs frequently demonstrated by extending and refining learning through analysis)
Early Independent (IBs occasionally Demonstrated by synthesizing & evaluating knowledge meaningfully)
Independent (IBs consistently demonstrated by synthesizing & evaluating knowledge. Uses newly created information/product meaningfully.

Student Name _____ **Grade** _____ **Date** _____

Intelligent Behavior
Persisting (Motivation) Rubric

Literary Selection _____

Assignment _____

.	Readiness Exploratory/ Discovery	Early Emergent/ Emergent	Progressing	Early Independent	Independent
Stays on task a reasonable length of time	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Looks for multiple ways to accomplish a task.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Analyzes and evaluates task by seeking new knowledge while verifying results.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Demonstrates diligence and determination in pursuing issues, problems or challenges despite obstacles and/or "setbacks" in order to achieve acceptable resolution/product.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**

These activities are noted by Mastery Learner (A), Interpersonal Learner (B), Understanding Learner (C) and Self-Expressive Learner (D). The A, B, C, and D are conveniently located on each rubric task rotation activities in order to allow the teacher to align appropriate activities with the intelligent behavior and the observable degree of development with the behaviors when working on the activities. By circling the appropriate letter, the teacher indicates which activity, learning style and degree of development of the observable intelligent behavior the student has demonstrated.

Additional Comments _____

Teacher's Signature _____

Readiness Exploratory/Discovery (IBs Explored & Sporadically Demonstrated)
Early Emergent/Emergent (IBs Ocassionally Demonstrated by acquiring & integrating knowledge through application)
Progressing (IBs frequently demonstrated by extending and refining learning through analysis)
Early Independent (IBs occasionally Demonstrated by synthesizing & evaluating knowledge meaningfully)
Independent (IBs consistently demonstrated by synthesizing & evaluating knowledge. Uses newly created information/product meaningfully.

Student Name _____ **Grade** _____ **Date** _____

Intelligent Behavior

Listening With Understanding/Empathy Rubric
(Interpersonal/Intrapersonal Insight)

Literary Selection _____

Assignment _____

.	Readiness Exploratory/ Discovery	Early Emergent/ Emergent	Progressing	Early Independent	Independent
Has little or no empathy beyond literal awareness of others' problems, issues or challenges.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Begins to show limited understanding of different perspectives.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Starts analyzing different perspectives to understand and to empathize with different views.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Ask questions to advance personal understanding of different viewpoints.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**

These activities are noted by Mastery Learner (A), Interpersonal Learner (B), Understanding Learner (C) and Self-Expressive Learner (D). The A, B, C, and D are conveniently located on each rubric task rotation activities in order to allow the teacher to align appropriate activities with the intelligent behavior and the observable degree of development with the behaviors when working on the activities. By circling the appropriate letter, the teacher indicates which activity, learning style and degree of development of the observable intelligent behavior the student has demonstrated.

Additional Comments _____

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Teacher's Signature _____

Readiness Exploratory/Discovery (IBs Explored & Sporadically Demonstrated)
Early Emergent/Emergent (IBs Ocassionally Demonstrated by acquiring & integrating knowledge through application)
Progressing (IBs frequently demonstrated by extending and refining learning through analysis)
Early Independent (IBs occasionally Demonstrated by synthesizing & evaluating knowledge meaningfully)
Independent (IBs consistently demonstrated by synthesizing & evaluating knowledge. Uses newly created information/product meaningfully.

Student Name _____ **Grade** _____ **Date** _____

Intelligent Behavior

Thinking Flexibly (Reasoning/Problem Solving) Rubric

Literary Selection _____

Assignment _____

.	Readiness Exploratory/ Discovery	Early Emergent/ Emergent	Progressing	Early Independent	Independent
Is flexible in thought. Brainstorms obvious or common knowledge approaches.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Requires some guidance and intervention through coaching from teacher(s) and/or peers.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Demonstrates flexibility of thought in multiple/diverse settings.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Demonstrates effectively (may be inventive) strategies for recognizing and solving issues, problems and challenges. He/she is a responsible high risk-taker.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**

These activities are noted by Mastery Learner (A), Interpersonal Learner (B), Understanding Learner (C) and Self-Expressive Learner (D). The A, B, C, and D are conveniently located on each rubric task rotation activities in order to allow the teacher to align appropriate activities with the intelligent behavior and the observable degree of development with the behaviors when working on the activities. By circling the appropriate letter, the teacher indicates which activity, learning style and degree of development of the observable intelligent behavior the student has demonstrated.

Additional Comments _____

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Teacher's Signature _____

Readiness Exploratory/Discovery (IBs Explored & Sporadically Demonstrated)
Early Emergent/Emergent (IBs Ocassionally Demonstrated by acquiring & integrating knowledge through application)
Progressing (IBs frequently demonstrated by extending and refining learning through analysis)
Early Independent (IBs occasionally Demonstrated by synthesizing & evaluating knowledge meaningfully)
Independent (IBs consistently demonstrated by synthesizing & evaluating knowledge. Uses newly created information/product meaningfully.

Student Name _____ **Grade** _____ **Date** _____

Intelligent Behavior

Thinking About Thinking MetaCognition (Reasoning/Memory) Rubric

Literary Selection _____

Assignment _____

.	Readiness Exploratory/ Discovery	Early Emergent/ Emergent	Progressing	Early Independent	Independent
Limited understanding of how one thinks/stores information or arrives at a solution/decision.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Gathers and organizes materials/resources prior to embarking on a task/decision making.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Develops plan(s) to clearly progress from one point to the next point.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Habitually notes information others miss when evaluating and reflecting on effectiveness of solutions/products.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**

These activities are noted by Mastery Learner (A), Interpersonal Learner (B), Understanding Learner (C) and Self-Expressive Learner (D). The A, B, C, and D are conveniently located on each rubric task rotation activities in order to allow the teacher to align appropriate activities with the intelligent behavior and the observable degree of development with the behaviors when working on the activities. By circling the appropriate letter, the teacher indicates which activity, learning style and degree of development of the observable intelligent behavior the student has demonstrated.

Additional Comments _____

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Teacher's Signature _____

Readiness Exploratory/Discovery (IBs Explored & Sporadically Demonstrated)
Early Emergent/Emergent (IBs Ocassionally Demonstrated by acquiring & integrating knowledge through application)
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Independent (IBs consistently demonstrated by synthesizing & evaluating knowledge. Uses newly created information/product meaningfully.

Student Name _____ **Grade** _____ **Date** _____

Intelligent Behavior

Questioning and Posing Problems (Inquiry) Rubric

Literary Selection _____

Assignment _____

.	Readiness Exploratory/ Discovery	Early Emergent/ Emergent	Progressing	Early Independent	Independent
Inquires and asks questions on topics of interest.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Gathers information from multiple perspectives.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Ask complex questions to create new problems to explore.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Initiates further exploration on a topic in order to refine or expand understanding.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**

These activities are noted by Mastery Learner (A), Interpersonal Learner (B), Understanding Learner (C) and Self-Expressive Learner (D). The A, B, C, and D are conveniently located on each rubric task rotation activities in order to allow the teacher to align appropriate activities with the intelligent behavior and the observable degree of development with the behaviors when working on the activities. By circling the appropriate letter, the teacher indicates which activity, learning style and degree of development of the observable intelligent behavior the student has demonstrated.

Additional Comments _____

Teacher's Signature _____

Readiness Exploratory/Discovery (IBs Explored & Sporadically Demonstrated)
Early Emergent/Emergent (IBs Ocassionally Demonstrated by acquiring & integrating knowledge through application)
Progressing (IBs frequently demonstrated by extending and refining learning through analysis)
Early Independent (IBs occasionally Demonstrated by synthesizing & evaluating knowledge meaningfully)
Independent (IBs consistently demonstrated by synthesizing & evaluating knowledge. Uses newly created information/product meaningfully.

Student Name _____ **Grade** _____ **Date** _____

Intelligent Behavior

Applying Past Knowledge (Insight) Rubric

Literary Selection _____

Assignment _____

.	Readiness Exploratory/ Discovery	Early Emergent/ Emergent	Progressing	Early Independent	Independent
Recognizes and uses available resources/materials to complete a task.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Recognizes alternatives processes to achieve the desired task.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Recognizes and connects prior knowledge to text.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Makes and applies text-to-text connections.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Makes and applies text to world connections.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**

These activities are noted by Mastery Learner (A), Interpersonal Learner (B), Understanding Learner (C) and Self-Expressive Learner (D). The A, B, C, and D are conveniently located on each rubric task rotation activities in order to allow the teacher to align appropriate activities with the intelligent behavior and the observable degree of development with the behaviors when working on the activities. By circling the appropriate letter, the teacher indicates which activity, learning style and degree of development of the observable intelligent behavior the student has demonstrated.

Additional Comments _____

Teacher's Signature _____

Readiness Exploratory/Discovery (IBs Explored & Sporadically Demonstrated)
Early Emergent/Emergent (IBs Ocassionally Demonstrated by acquiring & integrating knowledge through application)
Progressing (IBs frequently demonstrated by extending and refining learning through analysis)
Early Independent (IBs occasionally Demonstrated by synthesizing & evaluating knowledge meaningfully)
Independent (IBs consistently demonstrated by synthesizing & evaluating knowledge. Uses newly created information/product meaningfully.

Student Name _____ **Grade** _____ **Date** _____

Intelligent Behavior

Thinking/Communicating With clarity/Precision (Communication) Rubric

Literary Selection _____

Assignment _____

.	Readiness Exploratory/ Discovery	Early Emergent/ Emergent	Progressing	Early Independent	Independent
Expresses ideas clearly through different modes (e.g., graphs, structures, paintings, drawings, words, music, dance, etc.).	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Expands on ideas through comparing/contrasting and sequencing of data.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Elaborates upon complex and novel ideas that demonstrate continual growth and understanding.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**

These activities are noted by Mastery Learner (A), Interpersonal Learner (B), Understanding Learner (C) and Self-Expressive Learner (D). The A, B, C, and D are conveniently located on each rubric task rotation activities in order to allow the teacher to align appropriate activities with the intelligent behavior and the observable degree of development with the behaviors when working on the activities. By circling the appropriate letter, the teacher indicates which activity, learning style and degree of development of the observable intelligent behavior the student has demonstrated.

Additional Comments _____

Teacher's Signature _____

Readiness Exploratory/Discovery (IBs Explored & Sporadically Demonstrated)
Early Emergent/Emergent (IBs Ocassionally Demonstrated by acquiring & integrating knowledge through application)
Progressing (IBs frequently demonstrated by extending and refining learning through analysis)
Early Independent (IBs occasionally Demonstrated by synthesizing & evaluating knowledge meaningfully)
Independent (IBs consistently demonstrated by synthesizing & evaluating knowledge. Uses newly created information/product meaningfully.

Student Name _____ **Grade** _____ **Date** _____

Intelligent Behavior

Creating, Imagining & Innovating (Imagination) Rubric

Literary Selection _____

Assignment _____

.	Readiness Exploratory/ Discovery	Early Emergent/ Emergent	Progressing	Early Independent	Independent
Explores resources, manipulatives and other educational tools freely.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Tries to do/complete tasks in different, unusual and imaginative ways.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Analyses ideas and/or products in new ways using fluency and flexibility.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Reflects on new products and/or ideas by analyzing, evaluating and creating.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**

These activities are noted by Mastery Learner (A), Interpersonal Learner (B), Understanding Learner (C) and Self-Expressive Learner (D). The A, B, C, and D are conveniently located on each rubric task rotation activities in order to allow the teacher to align appropriate activities with the intelligent behavior and the observable degree of development with the behaviors when working on the activities. By circling the appropriate letter, the teacher indicates which activity, learning style and degree of development of the observable intelligent behavior the student has demonstrated.

Additional Comments _____

Teacher's Signature _____

Readiness Exploratory/Discovery (IBs Explored & Sporadically Demonstrated)
Early Emergent/Emergent (IBs Ocassionally Demonstrated by acquiring & integrating knowledge through application)
Progressing (IBs frequently demonstrated by extending and refining learning through analysis)
Early Independent (IBs occasionally Demonstrated by synthesizing & evaluating knowledge meaningfully)
Independent (IBs consistently demonstrated by synthesizing & evaluating knowledge. Uses newly created information/product meaningfully.

Student Name _____ **Grade** _____ **Date** _____

Intelligent Behavior

Taking Responsible Risks (Problem Solving) Rubric

Literary Selection _____

Assignment _____

.	Readiness Exploratory/ Discovery	Early Emergent/ Emergent	Progressing	Early Independent	Independent
Avoids difficult/challenging tasks. Rarely questions concepts/ideas or establishment.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Uses a variety of strategies to address problems.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Frequently addresses problems with a deep understanding of how to use appropriate thinking skills and decision-making processes.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Seeks and poses relevant questions that revolve around personal, prior knowledge and/or societal problems/ concerns/ issues encountered.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**

These activities are noted by Mastery Learner (A), Interpersonal Learner (B), Understanding Learner (C) and Self-Expressive Learner (D). The A, B, C, and D are conveniently located on each rubric task rotation activities in order to allow the teacher to align appropriate activities with the intelligent behavior and the observable degree of development with the behaviors when working on the activities. By circling the appropriate letter, the teacher indicates which activity, learning style and degree of development of the observable intelligent behavior the student has demonstrated.

Additional Comments _____

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_____

Teacher's Signature _____

Readiness Exploratory/Discovery (IBs Explored & Sporadically Demonstrated)
Early Emergent/Emergent (IBs Ocassionally Demonstrated by acquiring & integrating knowledge through application)
Progressing (IBs frequently demonstrated by extending and refining learning through analysis)
Early Independent (IBs occasionally Demonstrated by synthesizing & evaluating knowledge meaningfully)
Independent (IBs consistently demonstrated by synthesizing & evaluating knowledge. Uses newly created information/product meaningfully.

Student Name _____ **Grade** _____ **Date** _____

Intelligent Behavior

Finding Humor (Humor) Rubric

Literary Selection _____

Assignment _____

.	Readiness Exploratory/ Discovery	Early Emergent/ Emergent	Progressing	Early Independent	Independent
Creates things that are funny (e.g., cartoons, stories, games, songs, plays, etc.).	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Displays exceptional keen sense and use of humor in ways that entertain, delight and surprise others.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Recognizes, creates, and/or evaluates whimsical ideas/situations that may or may not be humorous depending on perspective(s).	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**

These activities are noted by Mastery Learner (A), Interpersonal Learner (B), Understanding Learner (C) and Self-Expressive Learner (D). The A, B, C, and D are conveniently located on each rubric task rotation activities in order to allow the teacher to align appropriate activities with the intelligent behavior and the observable degree of development with the behaviors when working on the activities. By circling the appropriate letter, the teacher indicates which activity, learning style and degree of development of the observable intelligent behavior the student has demonstrated.

Additional Comments _____

Teacher's Signature _____

Readiness Exploratory/Discovery (IBs Explored & Sporadically Demonstrated)
Early Emergent/Emergent (IBs Ocassionally Demonstrated by acquiring & integrating knowledge through application)
Progressing (IBs frequently demonstrated by extending and refining learning through analysis)
Early Independent (IBs occasionally Demonstrated by synthesizing & evaluating knowledge meaningfully)
Independent (IBs consistently demonstrated by synthesizing & evaluating knowledge. Uses newly created information/product meaningfully.

Student Name _____ **Grade** _____ **Date** _____

Intelligent Behavior

Remaining Open to Continuous Learning (Interest) Rubric

Literary Selection _____

Assignment _____

.	Readiness Exploratory/ Discovery	Early Emergent/ Emergent	Progressing	Early Independent	Independent
Collects special items of interest.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Takes advantage of opportunities (individually or collectively) to continue to pursue and learn on item(s) of interest.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**
Expresses passionate and sometimes unusual keen interest in topics, relationships and/or ideas of interest. Seeks the "what if…" to create the new and unusual.	**A B C D**	**A B C D**	**A B C D**	**A B C D**	**A B C D**

These activities are noted by Mastery Learner (A), Interpersonal Learner (B), Understanding Learner (C) and Self-Expressive Learner (D). The A, B, C, and D are conveniently located on each rubric task rotation activities in order to allow the teacher to align appropriate activities with the intelligent behavior and the observable degree of development with the behaviors when working on the activities. By circling the appropriate letter, the teacher indicates which activity, learning style and degree of development of the observable intelligent behavior the student has demonstrated.

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Project Bright IDEA 1: Interest Development Early Abilities

A Model K-2 Nurturing Program - 2001-2004

Final Report

May 27, 2005

North Carolina Department of Public Instruction, Raleigh, NC

Exceptional Children Division

Raising Achievement and Closing Gaps

The American Association for Gifted Children at Duke University

Project Bright IDEA 1: Interest Development Early Abilities

A Model K-2 Nurturing Program - 2001-2004

Final Report

Overview

Project Bright IDEA was developed by the North Carolina Department of Public Instruction as a pilot program to nurture and develop the interests and unusual abilities of young children in underrepresented groups. These populations include those children, regardless of race or ethnic group, who have limited English language experiences, cultural backgrounds, economic disadvantages, and/or educational disadvantages, disabilities, or differences which make it difficult for them to demonstrate their potential on traditional identification measures of talented and gifted.

The North Carolina Department of Public Instruction appointed a statewide, collaborative committee in 2000 to design a model K-2 program that would lead to nurturing and promoting underrepresented populations eligible for gifted programs. This committee launched *Bright IDEA 1* as a collaborative pilot model with *The American Association for Gifted Children at Duke University.*

The target group was selected through a request for proposal process (RFP). A total of twenty-one school districts applied through the process and six school districts were selected, representing the six Exceptional Children regions in North Carolina. Each district had one elementary school with two classes of kindergarten, two classes of first, and two classes of second graders for a total of 36 classes of Bright IDEA children. Children were not screened for the project; they came from regular classes that were randomly assigned. Five of the school districts that remained in the project for three years included: Gaston County; Henderson County; New Hanover County; Stanly County; Thomasville City; and Wake County. One school district dropped out at the end of the second year.

Criteria for Selection

Criteria for selecting teachers, schools, and school districts was established based on: 1) school districts competing for six regional sites; 2) superintendent, principal, teachers, and coordinators for gifted signing off on a three-year commitment for the project and training, including summer institutes; 3) schools having large numbers of underrepresented populations; 4) two regular classes in each school

participating, beginning with kindergarten and continuing through second grade; 5) providing assessment and other data on the students; and 6) a willingness to involve parents in training on nurturing potential for higher levels of thinking.

Districts baseline data included demographics on students' ethnicity; number of students on free and reduced lunches, pre and post student assessment data and the number of students in the school district identified as gifted.

The training of teachers started in the fall of 2001 on how to teach thinking skills. All kindergarten classes were taught Beginning Building Thinking Skills (BBTS) in the spring of 2002. First grade classes were brought on in the fall of 2002 and second grade classes in the fall of 2003. This provided for three years of Project Bright IDEA for children who started in kindergarten in 2001. Children were kept for all three years in the classes of teachers who were trained in Project Bright IDEA's concept-based instructional delivery model. The staff development component for the three years was comprehensive and included training in these major components:1) thinking skills; 2) concept-based instruction; 3) learning styles; 4) multiple intelligences; 5) intelligent behaviors; 6) multi-cultural literature; 7) mathematics; and 8) lesson plan design.

Mission and Goals

The mission of Project Bright IDEA 1 was to increase the potential for a number of children from underrepresented populations to be placed into gifted and higher level programs. The goals of the program were twofold: 1) to increase student achievement in literacy and mathematics among underrepresented populations by re-designing the curriculum and learning environment; and 2) to train teachers in developing concept-based curriculum that would foster a deep understanding of the latest research in instructional practices.

Findings from *Project Bright IDEA 1*

The findings of the Project Bright IDEA 1 demonstrates three key aspects of the success of the program: 1) the on-going commitment of the state education agency, local school districts, and the American Association for Gifted Children to promote success in AIG program for underrepresented populations; 2) how teacher training in concept-based instruction can promote student achievement and teacher expectation 3) how building on *Bright IDEA 1* helped the proposed project—*Bright IDEA 2*—to clearly

meet the requirements and receive a grant under Priority 1 of the Jacob Javits Education Program. The model was adopted as a Closing the Gap Initiative by the NCDPI in 2003.

Student Achievement Data (See Appendix I and II, K-2 Assessments.)

Student pre and post assessments were administered to all the Bright IDEA K-2 classes in the 2003-2004 school year by the classroom teachers from *the North Carolina K-2 Assessments for Literacy and Math.* These assessments are not state mandated and most local education districts (LEA's) do not use them in a systematic way. Some LEA's use portions of these assessments or have developed their own. These are not nationally normed assessments. These assessments were not used to compare Bright IDEA students with other students, but rather to have a pre and post evaluation that would indicate gains and growth for students. Teachers in Project Bright IDEA selected all of the items that would be used across the Bright IDEA project in literacy, reading, writing, and math. Kindergarten classes were assessed on literacy and all grades were evaluated on reading. Reading scores are based on running records that include books that students read and re-tell. Expected levels at the end of the year are outlined below for each grade level. Writing assessments were based on prompts for each grade level and evaluated by a rubric.

Key results for Bright IDEA 1 were:

- All kindergarten Bright IDEA classrooms scored in the 99th percentile on the state literacy assessment.
- Significant gains were seen in student achievement of the K-2 Literacy and Math Assessments across all of the sub-groups of children.
- Achievement among African-American and Hispanic populations was raised close to the level of white and Asian students.
- One school showed Bright Idea second graders scoring in the 80th percentile on the Iowa Test of Basic Skills Reading exam vs. 39th percentile for those who did not go through the Bright Idea model. Class size averaged 21.5 in Bright IDEA classrooms and 18.8 in the non-Bright IDEA classrooms. This was the only school that administered the Iowa Test.
- One principal provided data that showed nearly all Bright IDEA students in K-2 classrooms scoring 50-100% higher than students in regular classrooms for every assessment or inventory given, including the Iowa Test of Basic Skills.

In demonstrating the success of the first goal of the Project, it is clear that all students showed significant gains across all sub groups of the populations, indicating

that the gap among sub groups was closed for these students on these assessments. Our second goal was to identify and place more underrepresented populations into gifted programs. Headcount data on Bright IDEA I third graders that will be identified for gifted programs will not be available until Summer 2005. This data will be released to the public when available.

In demonstrating the success of the teacher training in understanding concept-based instruction, teachers developed products that included: 1) concept-based lesson plans; 2) rubrics for observing intelligent behaviors; and 3) transforming their classrooms into dynamic learning environments that provided students with centers on learning styles and multiple intelligences. Teachers have provided many anecdotal presentations that support the success of student achievement and teacher satisfaction.

Talent Assessment Profile (TAP, adapted from the work of Mary Frasier, Ph.D.)

Each student in Project Bright IDEA for 2004 has a Talent Assessment Profile showing gains between pre and post-assessments in reading, math, and writing. Intelligent Behaviors were integrated into multi-cultural literature units. Each class was taught a unit in a pre-test and post-test setting. Each student has a profile on at least two intelligent behaviors based on teacher observations and activities from the literature units. The pre and post assessment on the intelligent behaviors were based on a five scale rubric: 1) Readiness; 2) Emergent; 3) Progressing; 4) Early Independent; and 5) Independent. (See Appendix III, Intelligent Behaviors.)

Impact of the Model

The project has had an impact on the children, teachers and administrators who have been involved over the three years. Principals have reported gains on all assessments for all children and the potential of children being placed in gifted programs in the third grade. Teachers and administrators have reported that they have learned new ways of thinking about teaching rigorous curriculum to young children. They are excited about the success of their hard work in studying the research and practicing it in their classrooms. Administrators want to expand the program as funding becomes available.

What was the impact on children?

The integration of a thinking skills program into the *North Carolina Standard Course of Study* fostered students' abilities in developing five cognitive skills critical for success in achievement and testing: 1) describing; 2) finding similarities and differences; 3) sequencing; 4) classifying; and 5) forming analogies. This program has been excellent for developing vocabulary. Outcomes for the children included: 1) improved vocabulary development; 2) clarified thinking processes integral to content learning; 3) improved observation and description skills; 4) improved interaction with peers; 5) demonstrated growth on literacy, mathematics and writing assessments; and 7) improved conceptualization of mathematics, social studies, and science.

What was the impact on teachers?

Outcomes for teachers included the following: 1) integrated the *North Carolina Course of Study* with concept-based instruction and a thinking skills program; 2) incorporated Marzano's, *New Taxonomy of Educational Objectives* and the *Revised Bloom's Taxonomy* into the course of study; 3) developed multi-cultural literature units that were concept-based with the integration of intelligent behaviors and habits of mind; 4) changed the classroom environment to include the teaching of thinking skills and providing for all learning styles; 5) developed new rubrics and tools for observing intelligent behaviors and talents; 6) applied new mental models and strategies for children to connect knowledge; 7) involved parents in understanding the model and how they could help their children at home and 8) developed a deep understanding of how children learn and designed and implemented concept-based curriculum to teach integrated knowledge.

Summary and Project Bright IDEA 2

Based on the data collected and the reports from teachers and administrators the State believes that Project Bright IDEA 1 exceeded all expectations. This project had limited funding, but provided the pilot program for writing a Jacob Javits research proposal to the US Department of Education. The research grant was funded in 2004 to "upscale the project" across eighteen school districts in thirty-six schools over a three-year period and to study the impact of the project on teachers and students.

The first cohort of schools and participants was selected in November 2004. The first six school districts selected included: Guilford, Hickory, Lenoir, Moore, Roanoke Rapids, and Wake County. One hundred thirty-five participants (teachers, principals, central office) are involved in training from the six districts. The second cohort of school districts has been identified to begin training in the Fall 2005. Districts selected for the second cohort include: Beaufort, Brunswick, Duplin, Franklin, Richmond, and Wake.

The model program has been identified at Thomasville Primary School in Thomasville, North Carolina. The teachers and principal are designated as mentors to Project Bright IDEA 2 participants. This school is a model of leadership and exemplary teaching for the research design that is underway with Project Bright IDEA 2.

Funding

Funding was provided by the Exceptional Children Division and Raising the Achievement Gap Division of the North Carolina Department of Public Instruction and by The American Association for Gifted Children at Duke University with a grant from the Geraldine R. Dodge Foundation and private funds. Local school districts involved in the project provided funds for student materials, substitutes, and subsistence and travel funds for participants for training.

Many in-kind contributions were provided by all the participants and organizations including Wilburn Elementary School in Wake County Schools and Thomasville Primary School in Thomasville City Schools for providing space and breaks for Summer Institutes.

The staff of NCDPI and local schools and the Board of Directors of AAGC provided leadership and in-kind support to review the selection process and the implementation plan for Project Bright IDEA 1 and Project Bright IDEA 2.

Note: Headcount data on Bright IDEA I third graders that will be identified for gifted programs will not be available until Summer 2005.

APPENDIX I	Criteria for K-2 Assessments FY 2003-2004
APPENDIX II	Charts - K-2 Assessments for Literacy, Reading, Writing, and Math
APPENDIX III	Charts – Intelligent Behaviors

APPENDIX I

Criteria for K-2 Assessments – FY 2003-2004

Assessments	Total Points	
K Literacy:		
Letter Recognition	52	
Letter Sounds	26	
Book & Print Awareness	20	
Sight Words	50	
Total		148
K Writing		0-3
K - Reading - Running Records - End of K expected levels		3/4
K Math		24
1st Writing		0-4
1st Reading - Running Records - End of 1st expected levels		15/16
1st Math		28
2nd Writing		0-4
2nd Running Records - End of 2nd expected levels		23/24
2nd Math		52

FTAP's: Frasier Talent Assessment Profile
Each student in Project Bright IDEA for 2004 has an FTAP profile showing gains between pre and post-assessments. Intelligent Behaviors are integrated into multi-cultural literature units. Each class is taught a unit in a pre-test and post-test setting. Each student has a profile on at least two Intelligent Behaviors based on teacher observations and activities from the literature units.

APPENDIX II

Charts - K-2 Assessments

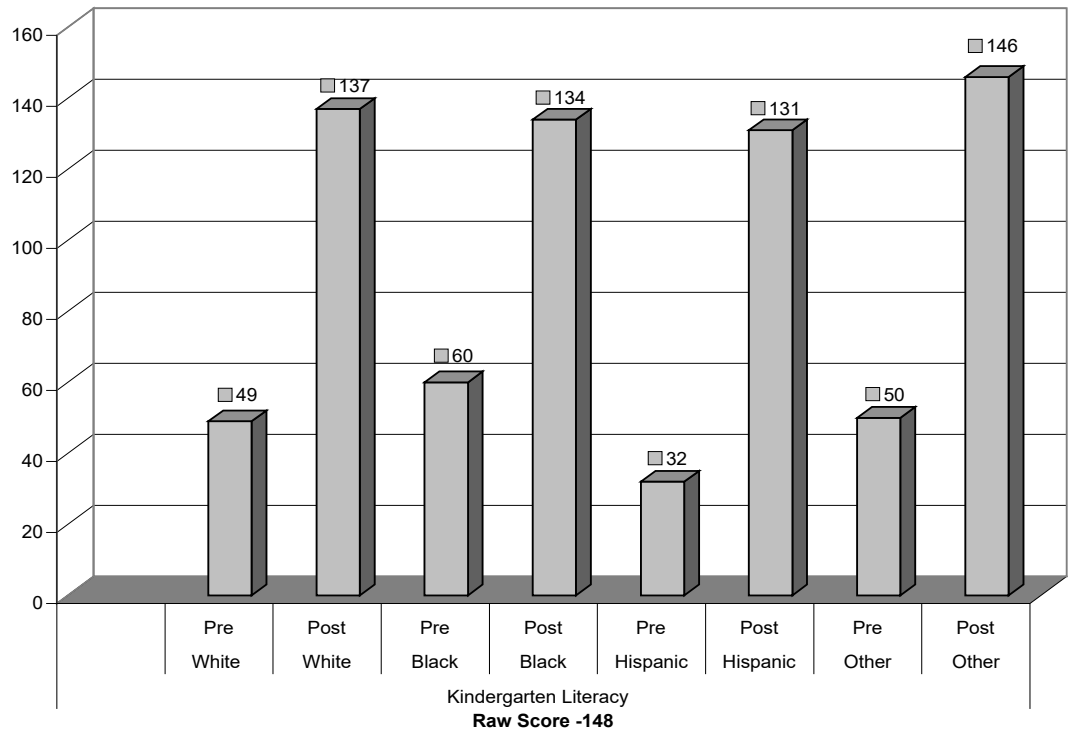
Kindergarten Literacy

K-2 Reading

K-2 Writing

K-2 Math

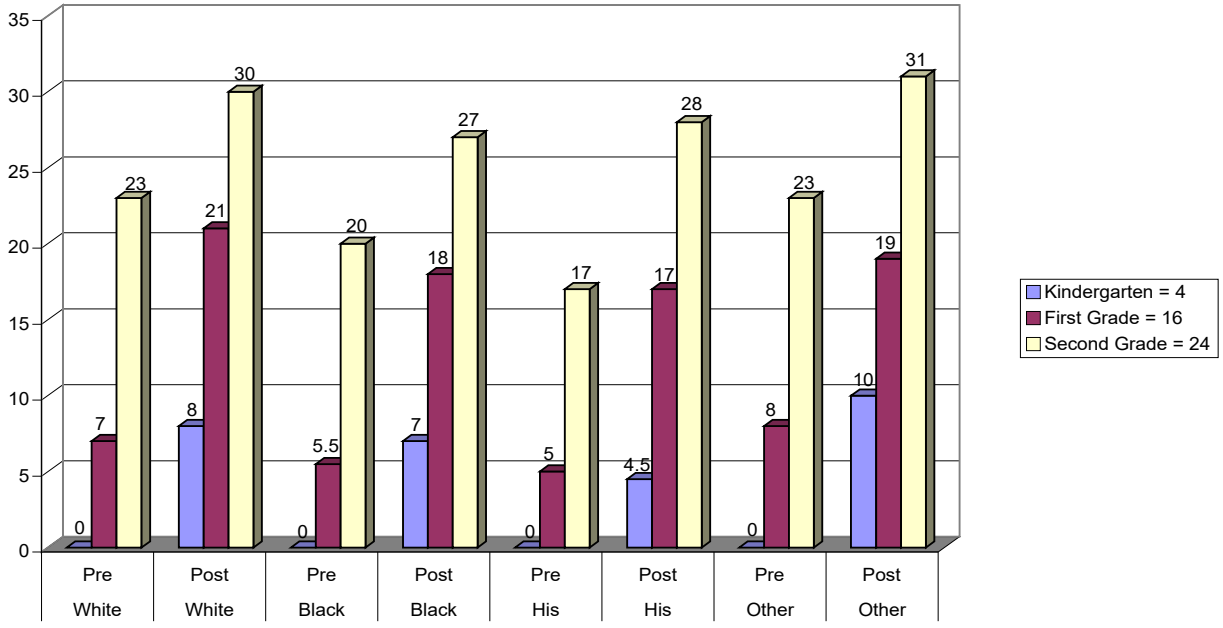
Project Bright IDEA 1: Kindergarten Literacy



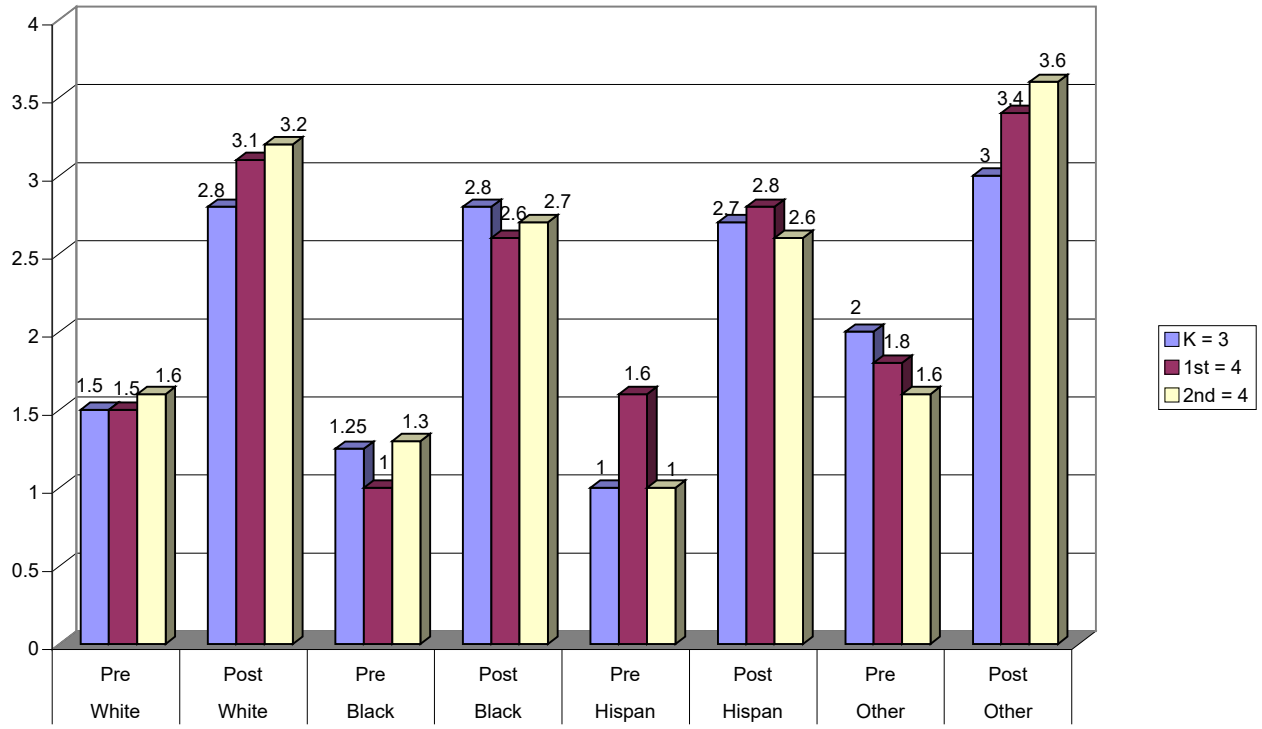
Bright IDEA 1

K-2 Reading [Running Records]

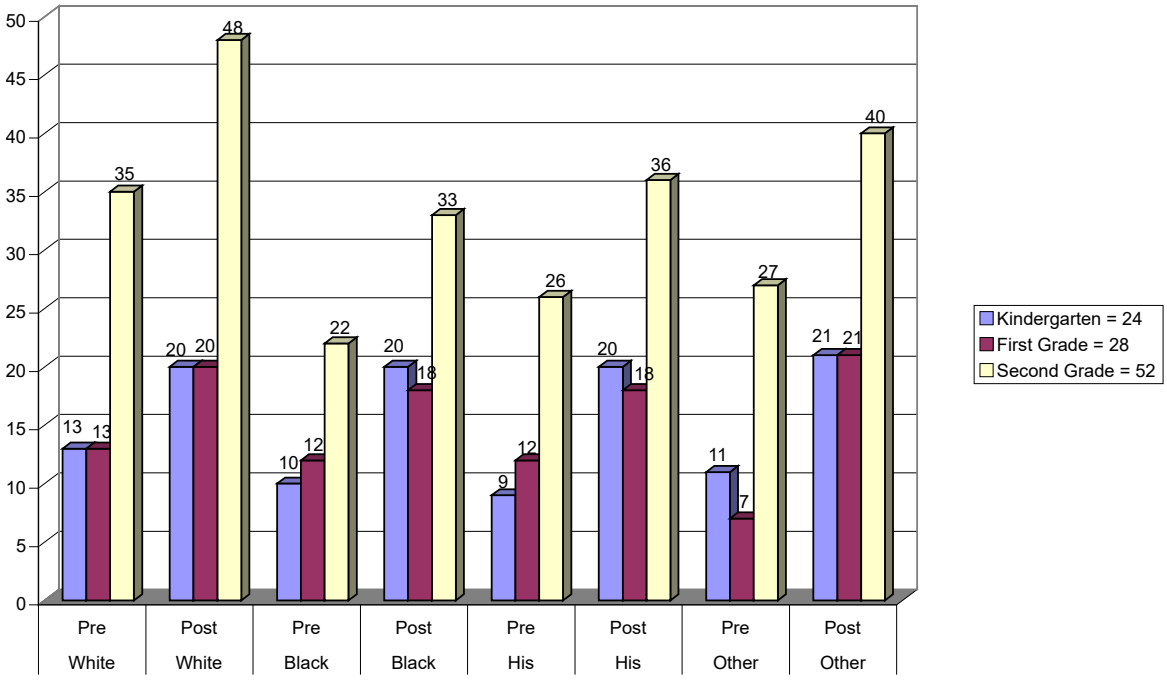
Legend Represents Expected Levels by End of Year



Bright IDEA 1
K-2 Writing
Legend Represents Levels



Bright IDEA 1- K-2 Math
Legend = Raw Scores



APPENDIX III

Charts - Intelligent Behaviors: Multicultural Literature [Pre and Post]

Kindergarten:

Page 13 Figure 1 Persistence

Page 14 Figure 2 Creating, Imagining, & Innovating

Books used in assessing Intelligent Behaviors in kindergarten:

Pre - *Jingle Dancer* by Cynthia Leitich Smith

Post – *Silver Shoes* by Caroline Binch

First Grade:

Page 15 Figure 3 Persistence

Page 16 Figure 4 Creating, Imagining, & Innovating

Page 17 Figure 5 Taking Risks

Page 18 Figure 6 Thinking Flexibly

Books used in assessing Intelligent Behaviors in first grade:

Pre – *Joseph Had a Little Overcoat* by Simms Taback

Post – *Down the Road* by Alice Schertle

Second Grade:

Page 19 Figure 7 Questioning & Posing Problems

Page 20 Figure 8 Creating, Imagining, & Innovating

Page 21 Figure 9 Remain Open to Continuous Learning

Books used in assessing Intelligent Behaviors in second grade:

Pre – *Yonder Mountain* by Kay Thorpe Bannon

Post - *The Caged Birds of Phnom Penh* by Frederick Lipp

Figure 1. Kindergarten: Persistence

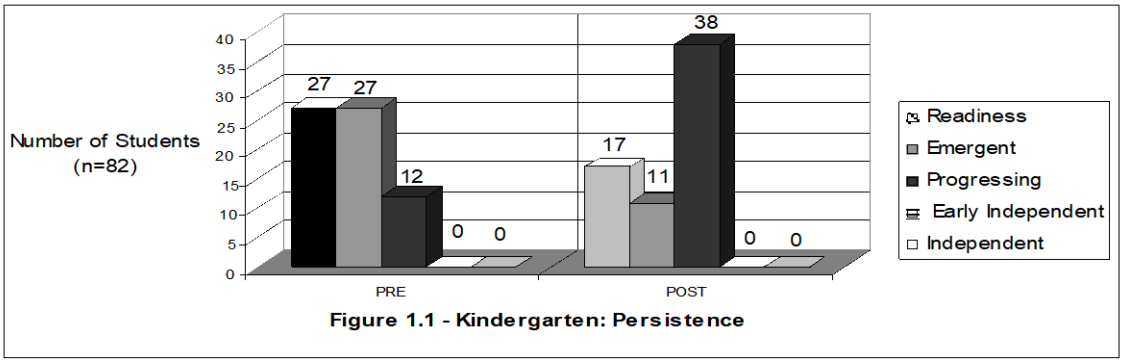


Figure 1.1 - Kindergarten: Persistence

Concept-based Lesson Plans on Multicultural Literature Books were used to teach Intelligent Behaviors:
Jingle Dancer by Cynthis Leitich Smith for Pre-Assessment and *Silver Shoes* by Caroline Binchfor Post Assessment.

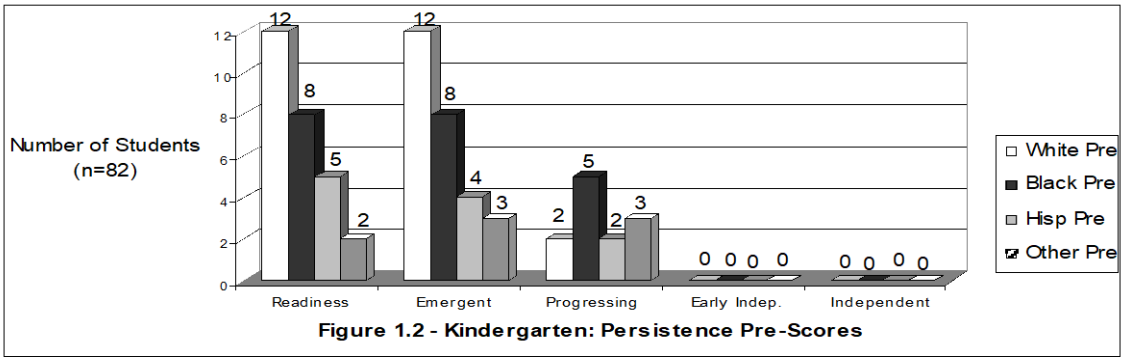


Figure 1.2 - Kindergarten: Persistence Pre-Scores

Intelligent Behavior: Persisting - Degrees of Development:
- Stays on task a reasonable length of time.
- Looks for multiple ways to stay on task.
- Analyzes and evaluates task by seeking new knowledge while verifying result.
- Demonstrates diligence and determination in achieving acceptable product, despite obstacles.

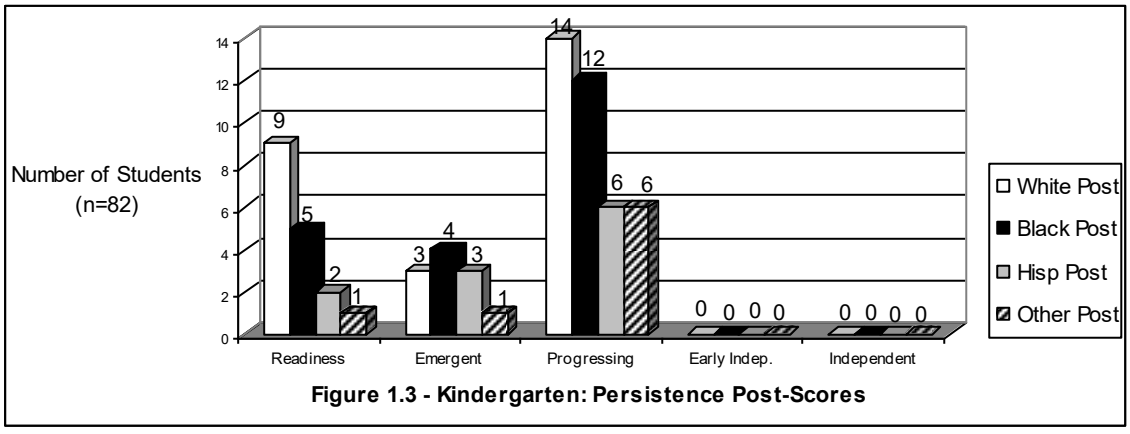


Figure 1.3 - Kindergarten: Persistence Post-Scores

Readiness: IB explored and sporadically demonstrated
Emergent: IB occasionally demonstrated by applying integrated knowledge
Progressing: IB frequently demonstrated by extending and refining learning through analysis
Early Independent: IB occasionally demonstrated by synthesizing & evaluating knowledge
Independent: IB consistently demonstrated uses of newly created information or products meaningfully.

Figure 2. Kindergarten: Creating, Imagining, & Innovating

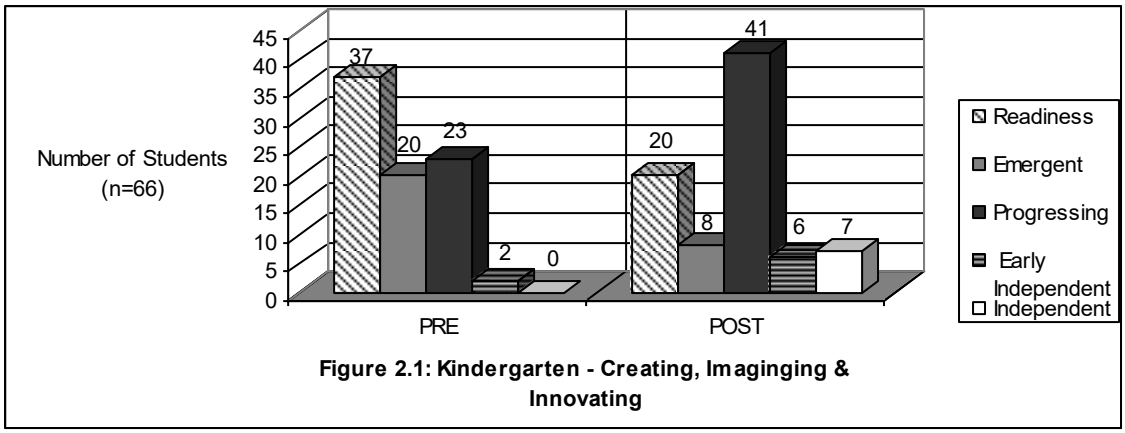


Figure 2.1: Kindergarten - Creating, Imaginging & Innovating

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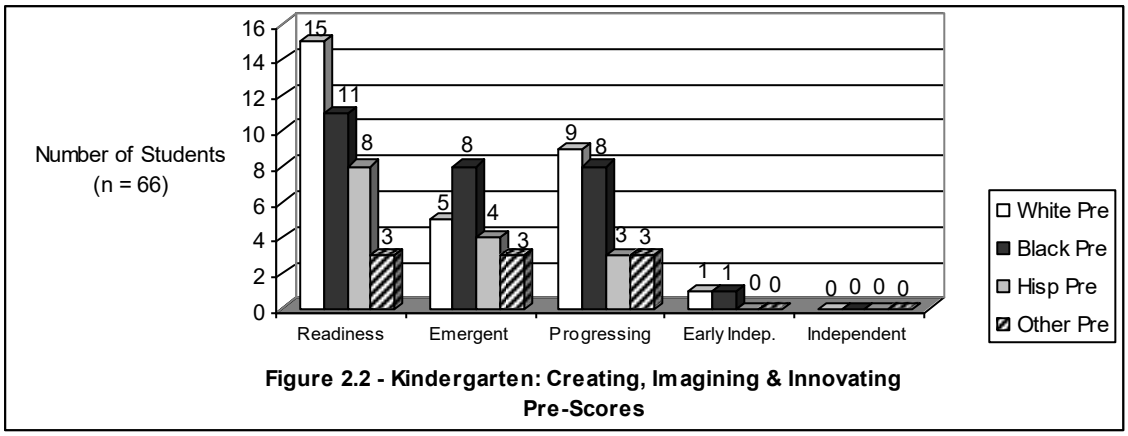

Figure 2.2 - Kindergarten: Creating, Imagining & Innovating Pre-Scores

Intelligent Behavior: Creating, Imagining & Innovating - Degrees of Development:
- Explores resources, manipulatives and other educational tools freely.
- Tries to do/complete tasks in different, unusual and imaginative ways.
- Analyzes ideas and/or products i new ways using fluency and flexibility.
- Reflects on newly created products and/or ideas through analyses, syntheses and evaluation.

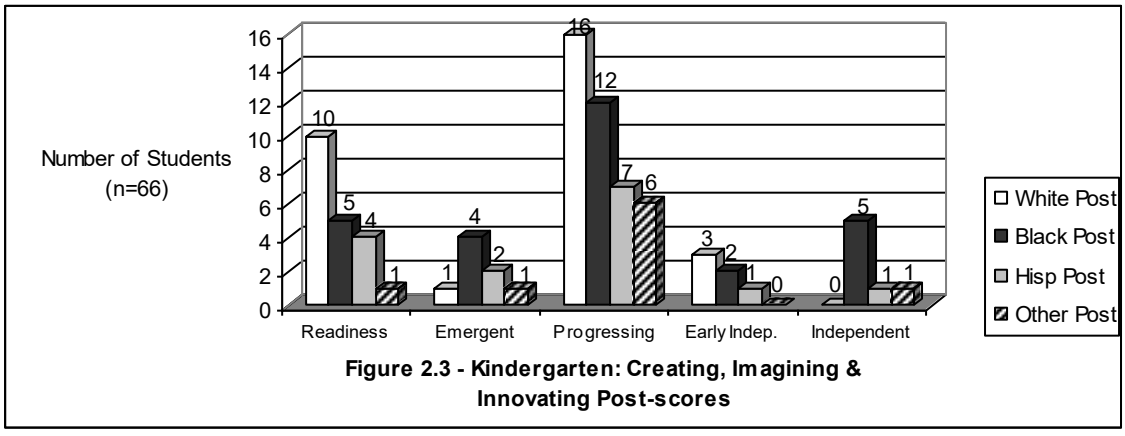

Figure 2.3 - Kindergarten: Creating, Imagining & Innovating Post-scores

Readiness: IB explored and sporadically demonstrated
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Independent: IB consistently demonstrated uses of newly created information or products meaningfully.

Figure 3. First Grade: Persistence

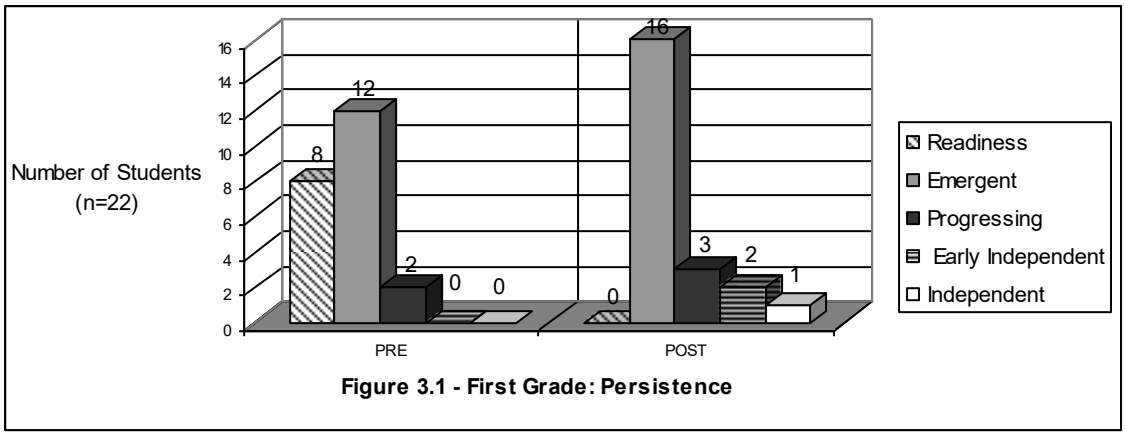

Figure 3.1 - First Grade: Persistence

Concept-based Lesson Plans on Multicultural Literature Books were used to teach Intelligent Behaviors: *Joseph Had a Little Overcoat* by Simms Taback for Pre Assessment and *Down the Road* by Alice Schertle for Post Assessment.

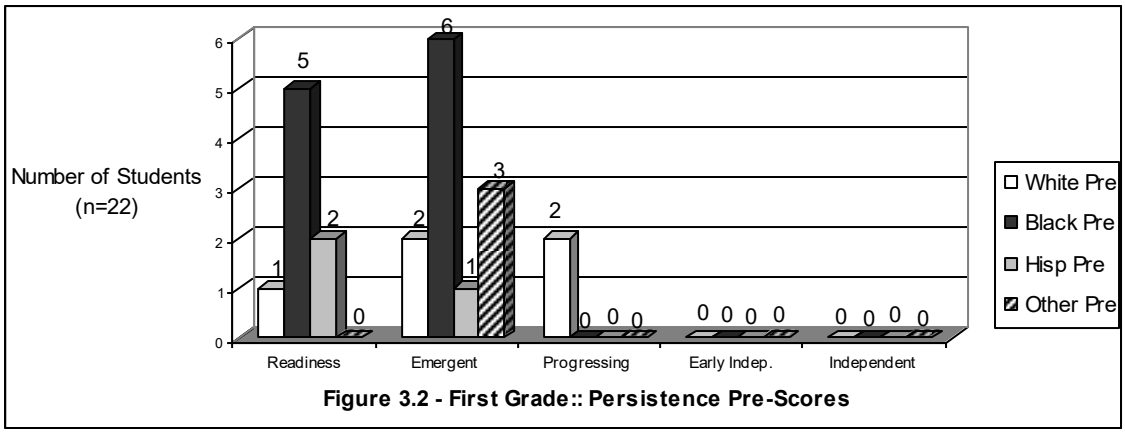

Figure 3.2 - First Grade:: Persistence Pre-Scores

Intelligent Behavior: Persisting - Degrees of Development:
- Stays on task a reasonable length of time.
- Looks for multiple ways to stay on task.
- Analyzes and evaluates task by seeking new knowledge while verifying result.
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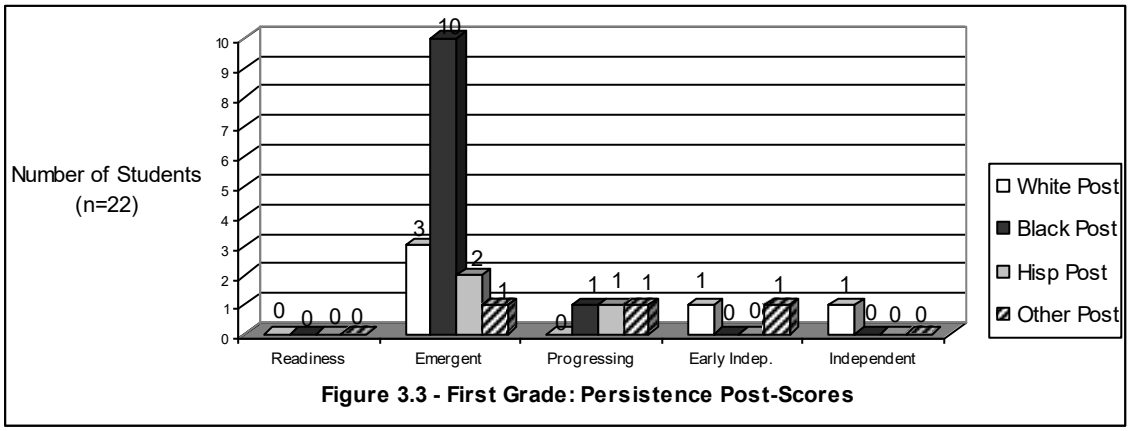

Figure 3.3 - First Grade: Persistence Post-Scores

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Figure 4. First Grade: Creating, Imagining, & Innovating

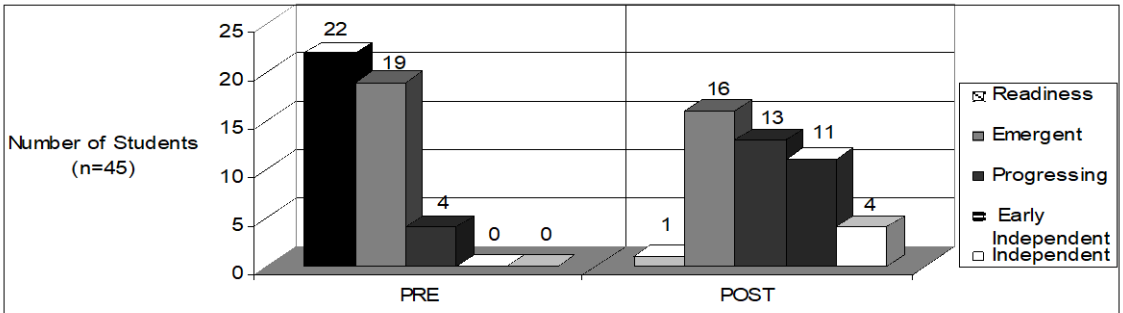

Figure 4.1 - First Grade: Creating, Imaginging & Innovating

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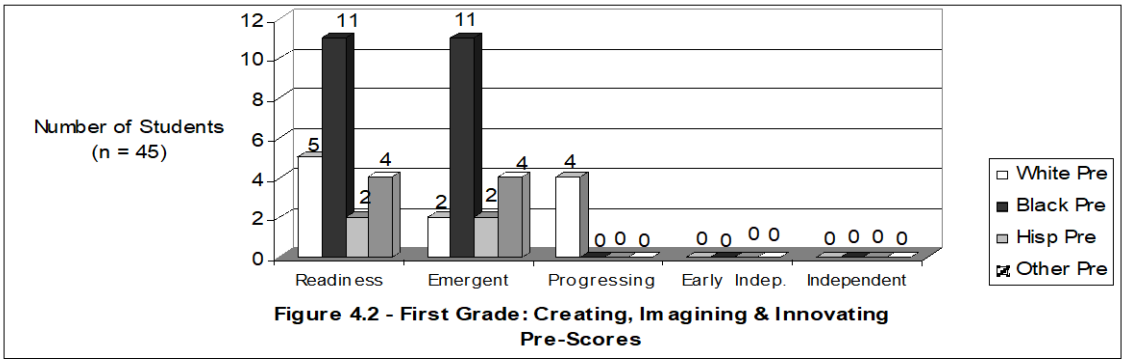

Figure 4.2 - First Grade: Creating, Imagining & Innovating Pre-Scores

Intelligent Behavior: Creating, Imagining & Innovating - Degrees of Development
- Explores resources, manipulatives and other educational tools freely.
- Tries to do/complete tasks in different, unusual and imaginative ways.
- Analyzes ideas and/or products i new ways using fluency and flexibility.
- Reflects on newly created products and/or ideas through analyses, syntheses and evaluation.

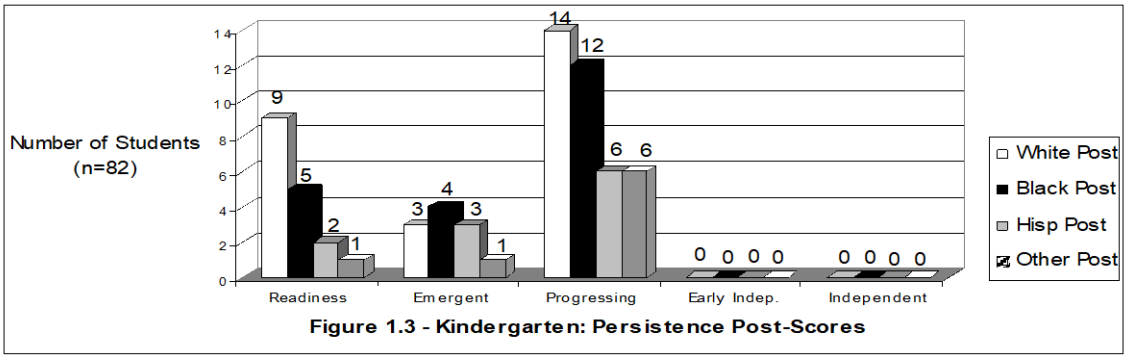

Figure 1.3 - Kindergarten: Persistence Post-Scores

Readiness: IB explored and sporadically demonstrated
Emergent: IB occasionally demonstrated by applying integrated knowledge
Progressing: IB frequently demonstrated by extending and refining learning through analysis
Early Independent: IB occasionally demonstrated by synthesizing & evaluating knowledge
Independent: IB consistently demonstrated uses of newly created information or products meaningfully.

Figure 5. First Grade: Taking Risks

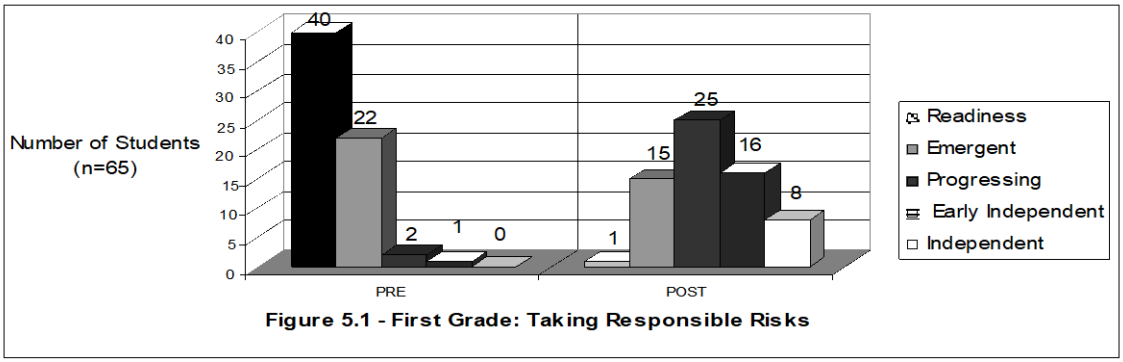

Figure 5.1 - First Grade: Taking Responsible Risks

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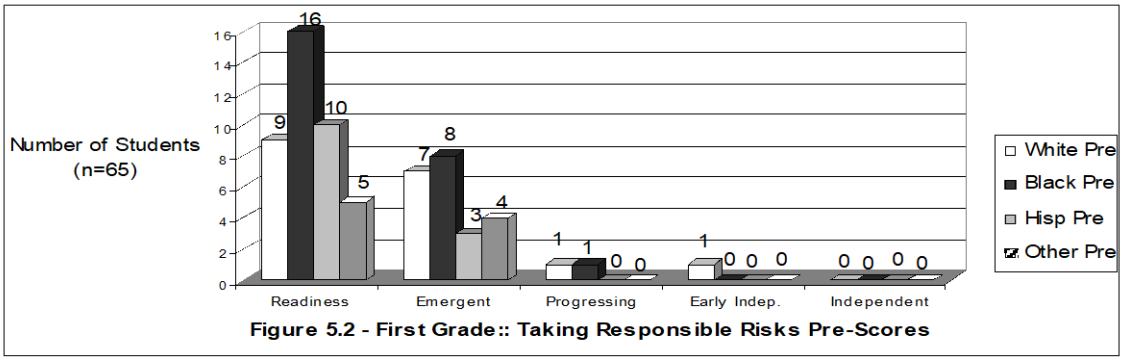

Figure 5.2 - First Grade:: Taking Responsible Risks Pre-Scores

Intelligent Behavior: Taking Responsible Risks [Problem Solving] - Degrees of Development
- Avoids difficult challenging tasks. Rarely questions concepts or ideas.
- Uses a variety of strategies to address problems.
- Frequently addresses problems with a deep understanding of how to use appropriate thinking skills.
- Seeks and poses relevant questions that revolve around personal, prior knowledge and or problems.

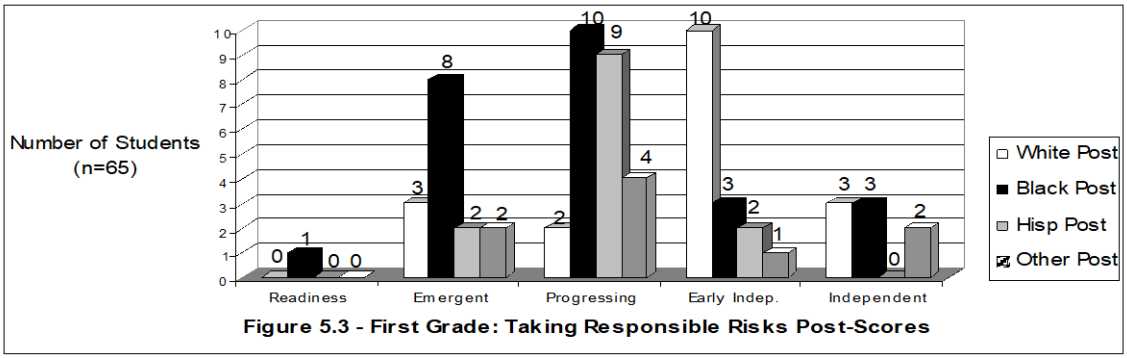

Figure 5.3 - First Grade: Taking Responsible Risks Post-Scores

Readiness: IB explored and sporadically demonstrated
Emergent: IB occasionally demonstrated by applying integrated knowledge
Progressing: IB frequently demonstrated by extending and refining learning through analysis
Early Independent: IB occasionally demonstrated by synthesizing & evaluating knowledge
Independent: IB consistently demonstrated uses of newly created information or products meaningfully.

Figure 6. First Grade: Thinking Flexibly

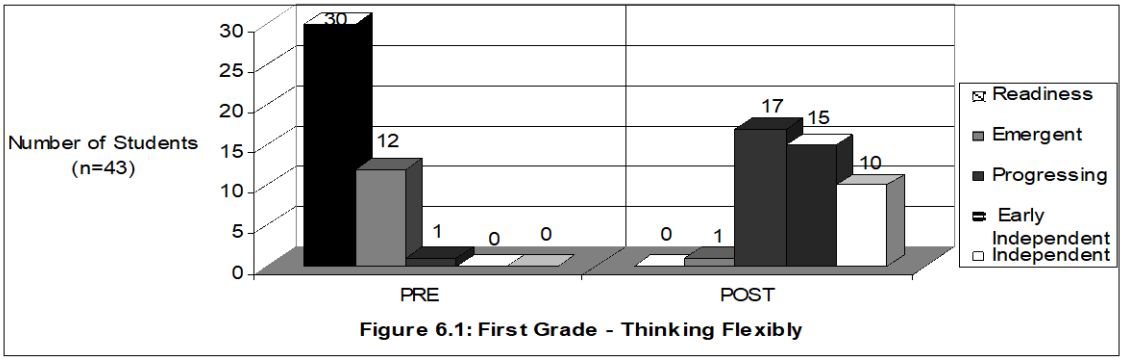

Figure 6.1: First Grade - Thinking Flexibly

Concept-based Lesson Plans on Multicultural Literature Books were used to teach Intelligent Behaviors: *Joseph Had a Little Overcoat* by Simms Taback for Pre Assessment and *Down the Road* by Alice Schertle for Post Assessment.

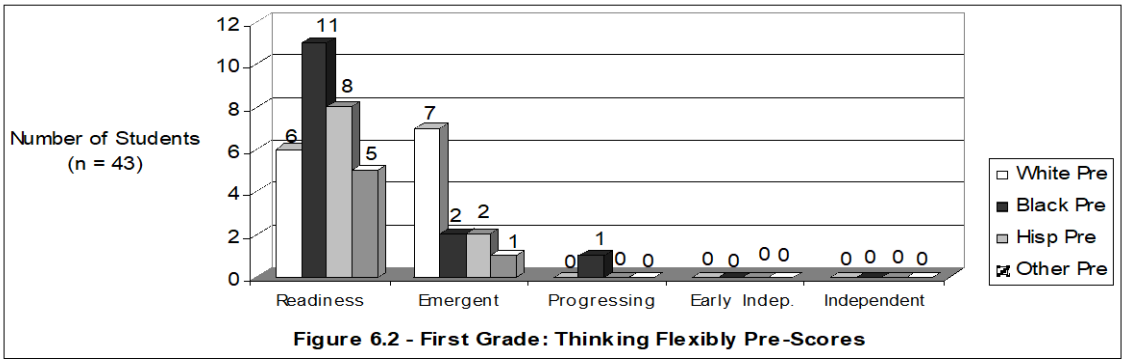

Figure 6.2 - First Grade: Thinking Flexibly Pre-Scores

Intelligent Behavior: Thinking Flexibly [Reasoning] - Degrees of Development
- Is flexible in thought and brainstorms obvious or common knowledge approaches.
- Requires limited guidance and intervention through coaching from teachers and peers.
- Demonstrates flexibility of thought in multiple and diverse settings.
- Demonstrates effectively strategies for recognizing and solving problems and challenges. High risk taker.

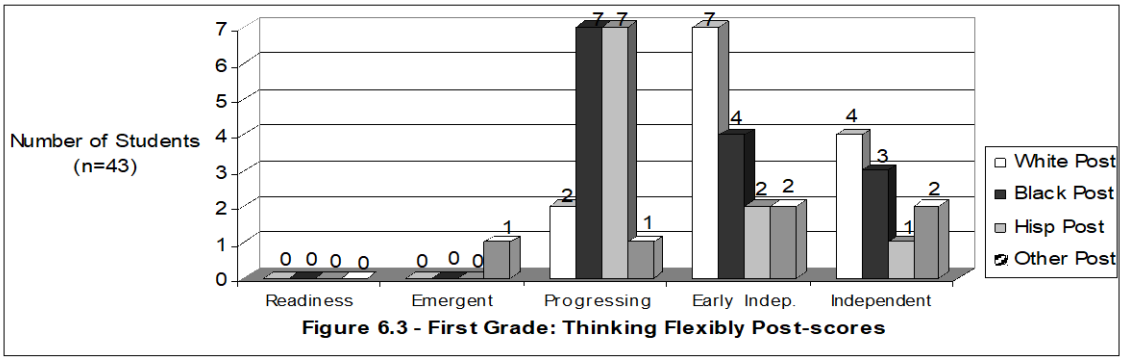

Figure 6.3 - First Grade: Thinking Flexibly Post-scores

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Figure 7. Second Grade: Questioning and Posing Problems

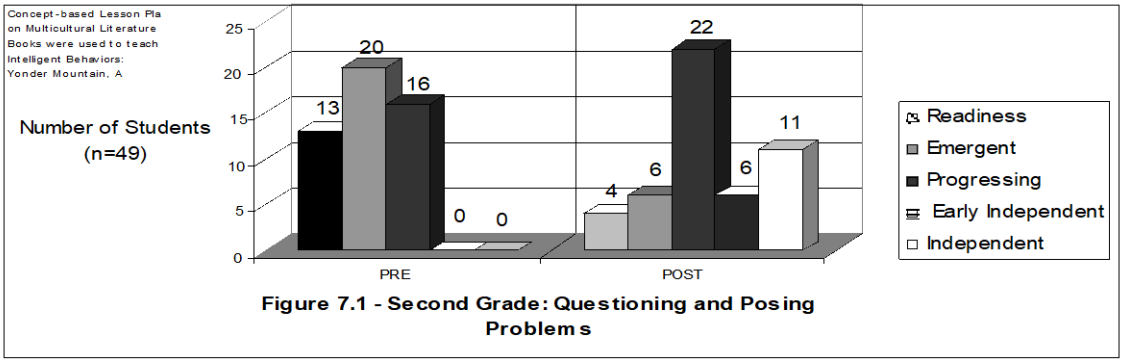

Figure 7.1 - Second Grade: Questioning and Posing Problems

Concept-based Lesson Plans on Multicultural Literature Books were used to teach Intelligent Behaviors: *Yonder Mountain, A Cherokee Legend* by Kay Thorpe Bannon for Pre Assessment and *The Caged Birds of Phnom Penh* by Frederick Lipp for Post Assessment.

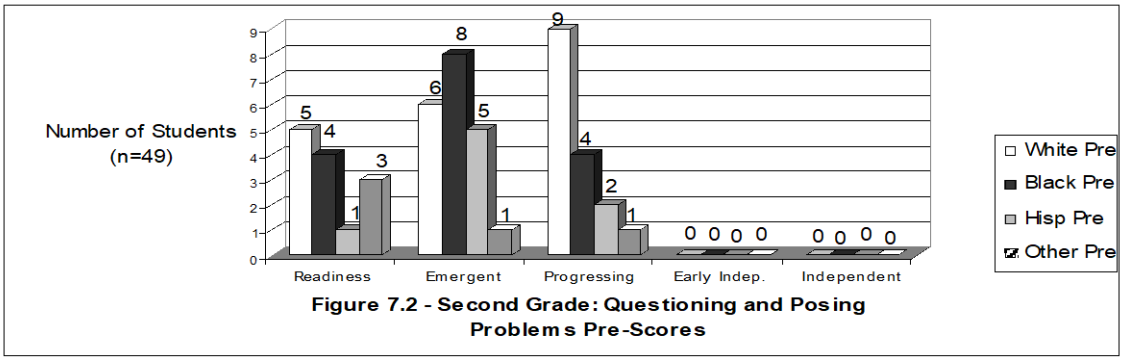

Figure 7.2 - Second Grade: Questioning and Posing Problems Pre-Scores

Intelligent Behavior: Questioning and Posing Problems [Inquiry] - Degrees of Development
- Inquires and asks questions on topics of interest.
- Gathers information from multiple perspectives.
- Ask complex questions to create new problems to explore.
- Initiates further exploration on a topic in order to refine or expand understanding.

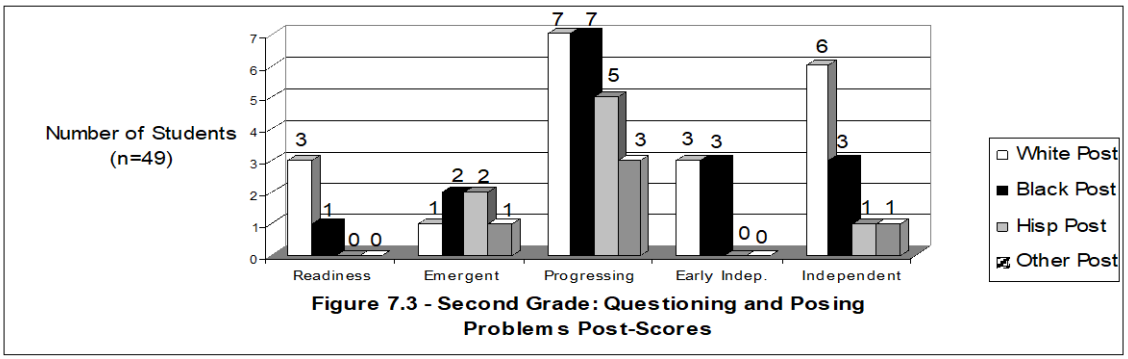

Figure 7.3 - Second Grade: Questioning and Posing Problems Post-Scores

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Figure 8. Second Grade: Creating, Imagining and Innovating

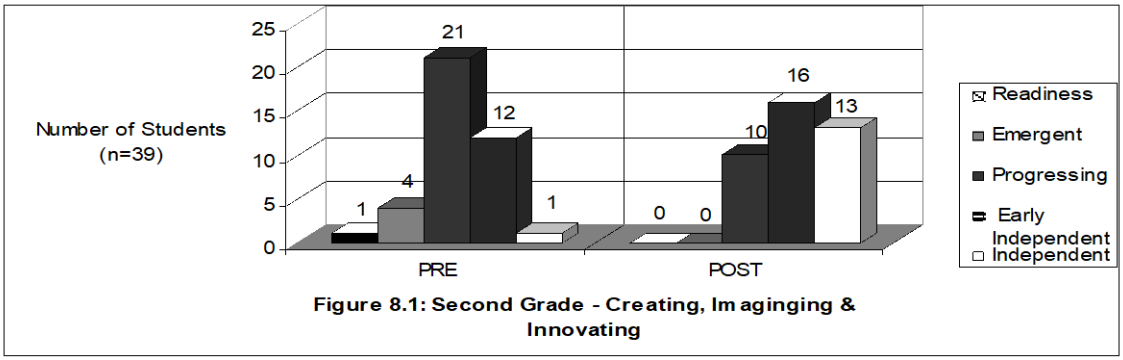

Figure 8.1: Second Grade - Creating, Imaginging & Innovating

Concept-based Lesson Plans on Multicultural Literature Books were used to teach Intelligent Behaviors: *Yonder Mountain, A Cherokee Legend* by Kay Thorpe Bannon for Pre Assessment and *The Caged Birds of Phnom Penh* by Frederick Lipp for Post Assessment.

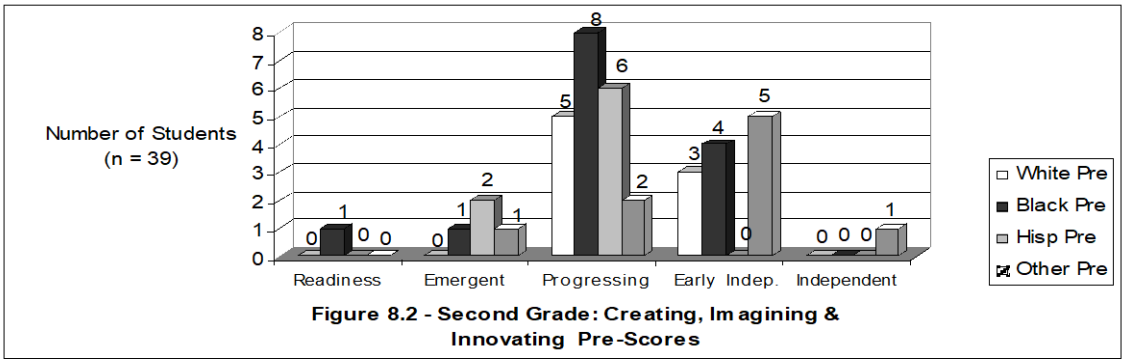

Figure 8.2 - Second Grade: Creating, Imagining & Innovating Pre-Scores

Intelligent Behavior: Creating, Imagining & Innovating - Degrees of Development
- Explores resources, manipulatives and other educational tools freely.
- Tries to do/complete tasks in different, unusual and imaginative ways.
- Analyzes ideas and/or products i new ways using fluency and flexibility.
- Reflects on newly created products and/or ideas through analyses, syntheses and evaluation.

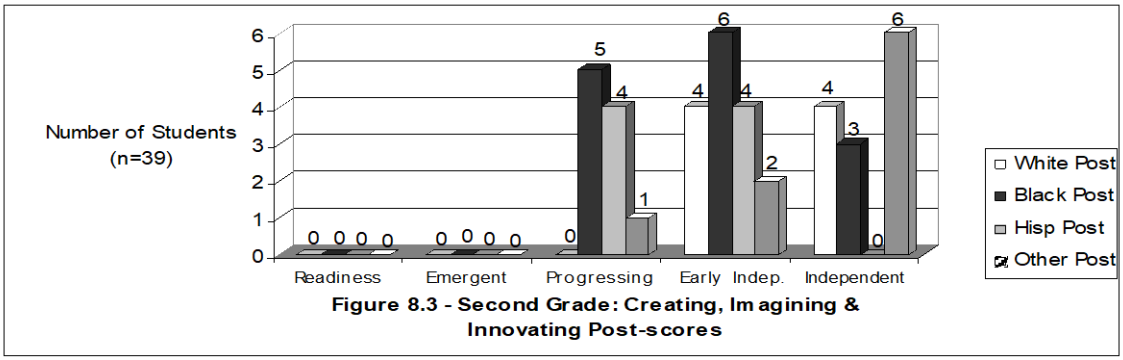

Figure 8.3 - Second Grade: Creating, Imagining & Innovating Post-scores

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Figure 9. Second Grade: Remain Open to Continuous Learning

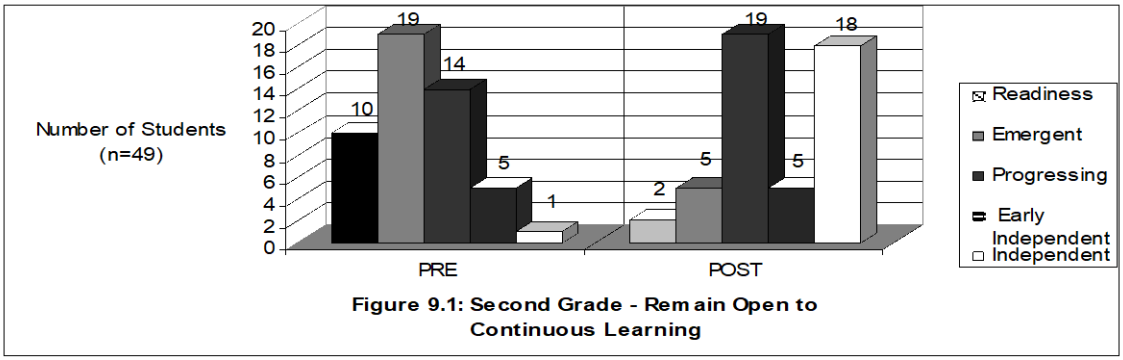

Figure 9.1: Second Grade - Remain Open to Continuous Learning

Concept-based Lesson Plans on Multicultural Literature Books were used to teach Intelligent Behaviors: *Yonder Mountain, A Cherokee Legend* by Kay Thorpe Bannon for Pre Assessment and *The Caged Birds of Phnom Penh* by Frederick Lipp for Post Assessment.

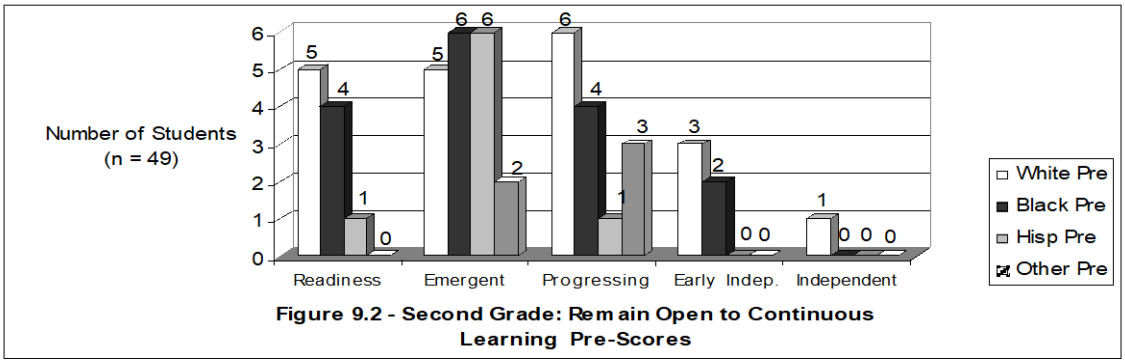

Figure 9.2 - Second Grade: Remain Open to Continuous Learning Pre-Scores

Intelligent Behavior: Remaining Open to Continuous Learning [Interest] - Degrees of Development

- Collects special items of interest.
- Takes advantage of opportunities to continue to pursue and learn items of interest.
- Expresses passionate and sometimes unusual keen interest in topics, relationships and ideas of interest. Seeks the "what if" to create the new and unusual.

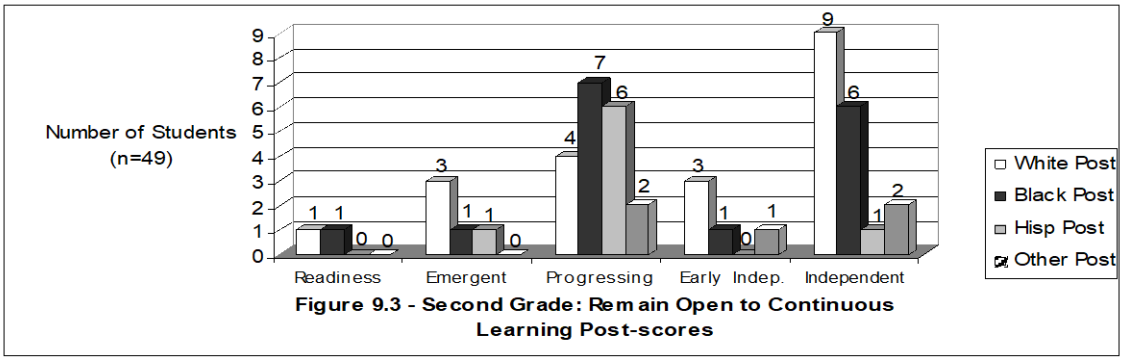

Figure 9.3 - Second Grade: Remain Open to Continuous Learning Post-scores

Readiness: IB explored and sporadically demonstrated
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Bright IDEA: Interest Development Early Abilities, Javits Research 2004-2010
The American Association for Gifted Children, Duke University and
North Carolina Department of Public Instruction, Exceptional Children Division

Bright IDEA Training	Instructional Strategies	Evaluation
Introduction to Training and Goals for Training (Watson, Hargett and Gayle)	• Presentation of NC Head Count Data • Darity Report	• Discussing and Reflecting on NC Data and Rationale for Bright IDEA
- Introduction to Rigor and Gifted Methodologies, - Concept-Based Curriculum - Differentiated Instruction and Cultural Diversity (Hargett, Trainer)	• Direct Instruction and Interaction • Guided Practice • Scenarios • Research-Based Strategies	• Examining a Rigor Rubric • Reflecting and Mapping Ideas • Mapping their Thinking
NC State Standards Common Core Standards (Hargett & Gayle, Trainers)	• Unpacking the standards on Bloom's Revised Taxonomy.	• Charting the standards by grade level and subject on Bloom's Template. (In Pairs and in groups) • Reflecting and Charting Thinking
- Bloom's Revised Taxonomy (Andersen) - Marzano's New Taxonomy on Educational Objectives (Hargett, Gayle, Trainers)	• Direct Instruction of Taxonomies • Guided Practice	• Charting the standards using Bloom's nouns and verbs to raise the level of rigor • Significance of Marzano's Taxonomy on Student Interest and Efficacy • Reflecting and Charting Thinking
Multicultural Literature: Fiction/Non-Fiction – © 2000 to 2009. (Hargett and Gayle and Gifted Coordinators, Trainers)	• Literature Circles • Brainstorming Big Ideas and Standards to be addressed by text. • Selecting Texts for Developing Units	• Charting the big ideas on a selected text, based on UBD's definitions and Template. (In Pairs) • Planning for unit design.
Building Thinking Skills (Parks & Black) (Parks, Hargett, Gayle and Gifted Coordinators, Trainers)	• Direct Instruction with Model Lessons and Thinking Skills Research • 5 Analysis Skills: Describing; Classifying; Sequencing; Finding Similarities and Differences; and Analogies • Think-Pair-Share • Speaking in complete sentences. • Graphic Organizers	• Teaching a sample lesson to another educator and they reflect together on the results. • Producing a timeline for teaching and integrating into curriculum per grade level. • Students enthusiastically love doing the lessons. • Teachers report they see results on vocabulary development.

Bright IDEA Training	Instructional Strategies	Evaluation
Multiple Intelligences (Gardner) Hargett & Moirao, Trainers	• Multiple Intelligent Centers: Linguistic Center (ex. Word Smart) • MI Journals • MI Instructional Strategies integrated with standards, gifted intelligent behaviors and learning styles.	• Designing 3 centers after training and developing a plan for rotation of MI centers for the year. Implemented Word Smart as a main focus for the year by changing performance tasks. • Observing by Trainers with feedback
Differentiating for the Young Child (Smutny & von Fremd) (Hargett, Gayle and Gifted Coordinators)	• Creative Writing (Essays, stories and poems) • Research Process • Tiered Lessons – Multiple Intelligences (Gardner) •	• Writing summaries and making presentations of differentiated strategies for the classroom.
Learning Styles Resources by Silver/Strong (Dan Moirao, Trainer) 4 Days of Training in first year with final coaching and training during Summer Institute.	• Window Notes (Four Styles of taking notes) • Do You Hear What I Hear? • Designing Hooks • Inductive Learning & Writing • Interpretive Writing • Persuasive Writing • Concept Attainment • Problem Based Models • Concept Definition Maps • Cooperative Learning • Task Rotations • Scenarios	• Writing performance tasks across standards, learning styles, interest and graduated levels of difficulty using a tiered menu. • Developing performance tasks for lessons and units. • Journal Writing
Gifted Intelligent Behaviors: - Habits of Mind (Costa & Kallick) - Talents, Attributes & Behaviors (Frasier) Costa & Kallick – 3 days Frasier – 3 days, Cohort 1 (Hargett and Mentors)	• Instructional Strategies for Integrating Gifted Intelligent Behaviors into lessons and units of study. • Rubric Training & Collection of Data • Essential Questions	• Rubric to assess students on growth over school year. • Journal Writing and reflecting on each session.
Understanding by Design, Stage 1 (Hargett, Gayle and Gifted Coordinators)	• Big Ideas • Stage 1 Design • Six Facets of Understanding • GRASPS • Scenarios	• Unpacking texts for big ideas. • Designing GRASPS and developing six facets for lessons and units.

Bright IDEA Training	Instructional Strategies	Evaluation
Teaching Math to Young Children. (John Olive, UGA, Trainer) Using text: Extending the Challenge in Mathematics for Gifted (Sheffield) Other trainers, Tzur's graduate students **Instructional Math Strategies and Performance Tasks,** Moirao, Trainer	• New American Lecture • Research on Number System and Teaching • Strategies for Tiered Lessons • Standards aligned with Performance Tasks	• Solving Number Problems • M & M Problem Solving Activity and Presentation • Writing Math Performance Task Rotations on Learning Styles for Centers
Formative Assessments All trainers focused on assessments within their training. (NC Training on formative assessment, Hargett, Trainer and local coordinators)	• Direct Instruction on Assessments and Learning Targets • Instructional Strategies for Lessons	• Developing assessments for learning targets based on standards • Written lesson plans by grade levels
Summer Institute Training – one week, held at the end of the first year of training. Hargett, Moirao and Gayle Trainers Small group review sessions are available on request for clarification and depth of understanding.	• Culminating Strategy: Produce an interdisciplinary concept-based unit that integrates all training into one product. (See Template.) • Reflection Sessions daily • Expert Coaching and Mentoring	In pairs, teachers, principals and curriculum specialists create Concept-Based Units from one or more of the multicultural texts. Due at the end of the week. The units are taught in the following school year and revised. Participants attend a follow-up summer institute to develop a deeper understanding on teaching the units and assessing performance of students.

This training was conducted in the first year with follow-up observations and coaching through the 3 years for each cohort group.
2004-2007 - Cohort – 1: 6 Districts with 2 schools each: 2 teachers in each school at grades K-2
2005-2008 – Cohort – 2: 4 Districts with 2 schools each: 2 teachers in each school at grades K-2
2006-2009 – Cohort – 3: 6 Districts with 2 schools each: 2 teachers in each school at grades K-2

A major evaluation component included a Teacher Fair held in April of each year in Raleigh by The North Carolina Department of Public Instruction and the American Association for Gifted Children for the research districts to present teacher and student products and their feedback on the training and student outcomes. Student products included written essays, art and artifacts from social studies, math and science projects. Teacher products included lesson plans and a power point and pictures of classroom activities. Teachers, Principals and the Superintendent shared their experiences about the training and the impact on teaching and learning.

Bright IDEA 2 - Educator Questionnaire

Dear Educator:
The purpose of this questionnaire is to learn about educators' perspectives regarding their work in school. The first part consists of 15 questions about your background. Please circle the proper number or fill the information requested. Your name will be used only to organize data; it will never appear anywhere results are used.
The second part consists of 43 statements about your dispositions toward education. Please indicate the extent to which you agree with the statement (Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree). Indeed, there are no 'right' or 'wrong' answers, only sincere answers. Thank you so much for providing us with your insights.

Part 1

a) Name: _____	b) School: _____
c) Teaching/educational work experience: _____ Years In _____	d) Number of schools worked (include current): _____ Schools
e) Grade you teach: 0. Kindergarten 1. First 2. Second 3. N/A	f) Current role in school: 1. Teacher 2. Principal 3. AIG Coordinator 4. Other: _____
g) Gender 1. Female 2. Male	h) Do you have a teaching license? 0. No 1. Yes
i) Are you National Board certified? 0. No 1. Yes	j) Distance from your home to school: _____ Miles
k) Race: 1. African American 2. Asian 3. Latino/a 4. Native American 5. White American 6. Other: _____	l) Academic major: 0. None 1. Early Childhood 2. Elementary Education 3. Special Education 4. Psychology: 5. Other: _____
m) Highest academic level completed: 1. High School 2. Two-year College 3. B.Ed./B.A./B.S. 4. M.Ed./M.A./M.S. 5. Ed.D./Ph.D.	n) Academic minor: 1. None 2. Education (any) 3. Arts (specify): _____ 4. Natural Sciences: _____ 5. Social Sciences: _____ 6. Other: _____
o) Years since started with Bright IDEA: 0. None (not at all / just started) 1. One 2. Two 3. Three or more	

Part 2

	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	I look for opportunities to learn more about: a) Teaching methods . . . . . . b) The subject matters I teach . . . . . . c) Students' ways of learning	. . . .	. . . .	. . . .	. . . .	. . . .
2	Within the student population of our school only a handful (if any) have a chance to go to college.					
3	I could foster higher academic results had I taught in a school located in a wealthier neighborhood.					
4	To foster creativity among my students I also need to exhibit creativity.					
5	Students learn new concepts best when they actively explore problems.					
6	I cannot demand of students from poor homes to excel academically.					
7	A teacher can learn about a child's giftedness from parents who say their child is gifted.					
8	My administrators allow me to be an effective instructional leader.					
9	I frequently ask my peers for ways to improve my teaching.					
10	A well-behaved classroom is more likely to excel academically than a noisy one.					
11	A teacher must provide a challenging instructional program despite students' difficulties at home.					
12	Academic giftedness depends on a teacher's nurturing effort.					
13	An effective teacher clearly presents to students what s/he expects them to be able to do.					
14	Minority students are more likely to exhibit limited motivation to learn.					
15	An effective teacher tailors the curriculum to the students' experience (e.g., omits parts, adds tasks, changes order of topics).					
16	In my teaching I tend to be flexible and experiment with the unknown.					
17	My satisfaction in teaching derives mainly from students' learning.					
18	Most parents believe that their child is gifted					
19	The key purpose of my questions to students is to figure out if they got the correct answers.					

	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
20	I feel recognized for good work					
21	Regardless of the teacher's intentions and efforts, in every classroom there are several students who cannot reach the intended goals.					
22	Students' unique racial background is an important resource in my planning for instruction.					
23	I continually involve my students' parents in what we do in class.					
24	I seek out opportunities for professional development.					
25	Our school's "report card" accurately reflects our student population.					
26	A teacher should encourage the use of humor in class.					
27	I love teaching: a) Language Arts . . . . . . b) Mathematics . . . . . . c) Science . . . . . . d) Social Studies	. . . .	. . . .	. . . .	. . . .	. . . .
28	An effective, 4-year teacher education program is sufficient for teaching at the K-2 level (hence no further professional development is needed).					
29	White students are more likely to exhibit compliance with school norms and regulations than minority students.					
30	I get frustrated when asked to teach in ways I was not trained.					
31	A teacher should help parents form realistic expectations about their child's giftedness.					
32	Some people use the term 'intimacy' to talk about the desired level of teachers' knowledge of the subject matter they teach. The term intimacy portrays my relationship with: a) Language arts . . . . . . b) Mathematics	. . . . . .	. . . . . .	. . . . . .	. . . . . .	. . . . . .
33	Gifted students are identified at 3rd grade so as a K-2 teacher I do not have to focus on giftedness.					
34	To accomplish my goals I have to consider my students' interests.					
35	I use tasks that set up high-level expectations for: a) My gifted students . . . . . . b) All my students	. . . . . .	. . . . . .	. . . . . .	. . . . . .	. . . . . .
36	I like being a mentor of other teachers.					

	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
37	Consider the following math problem: "We want to know the favorite ice cream flavor of students in our classroom. Collect data about every student's favorite ice cream from the list of flavors: Chocolate, Vanilla, Chocolate & Vanilla (mixed), Other. Use a graph paper to organize your data in a chart and explain what the chart shows." In our school, this problem is suitable for whole-class teaching at grade level: a) K-1 . . . . . . b) 2-3 . . . . . . c) 4-5	. . . .	. . . .	. . . .	. . . .	. . . .
38	A teacher's intuition should guide her/his teaching practice.					
39	I cannot expect students whose language at home is not standard English to excel academically.					
40	In our school, a teacher must devote a substantial amount of energy and time to discipline issues.					
41	My racial background is necessarily a factor in how I 'screen' and participate in the world (teaching included).					
42	Academic giftedness is, pretty much, a matter of heredity (nature, not nurture).					
43	Students learn well when they can monitor their own work.					

Bright IDEA-2 Educator Disposition Questionnaire

Javits Research Funded by US Department of Education -2004-2009

Design and Validation Process – Summary Report

The process of developing and testing the validity/reliability of the Disposition Questionnaire for project Bright IDEA-2 proceeded through four phases. Below, the project's evaluator, Dr. Ron Tzur, provides a summary of this 4-phase process.

Phase 1: Generating the Questionnaire

The evaluator interviewed the director of the pilot project Bright IDEA-1 (Gayle) and the principal of one elementary school (Thomasville) that participated in that project (Lupton). These interviews brought up a long list of issues that pertain to changes in teachers' understandings and/or practices as a result of their participation in professional development activities of project Bright IDEA-1 pilot project (2001-2004). From this list, the evaluator then generated the first draft of a Teacher Questionnaire, which consisted of 90 statements and several biographical information questions.

Phase 2: Expert Construct (Conceptual) Validity

The first draft was sent to nine (9) experts in the field of gifted education and minority students. Each expert was asked to provide one of three responses: (a) keep the item, (b) change the item, or (c) omit the item. The evaluator summarized the experts' responses and maintained 71 statements to which all (or all but one) experts checked the "keep the item" option. These 71 statements were then randomly ordered to comprise the second draft of the Questionnaire. Next to each statement a teacher (respondent) could choose one of 5 levels of agreement: Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree.

In addition, on the basis of expert suggestions, the biographical information was better organized into the following 13 items (underlined items indicate a request to circle one of several choices): name, school, grade one teaches, gender, teaching experience, teaching licensure, race, number of schools taught, academic major, academic minor, highest academic degree, distance from home to school, and National Board Certification.

Phase 3: Administration

Draft 2 of the Teacher Questionnaire was administered by principals from two Bright IDEA-1 pilot schools to 19 teachers, some who participated in the professional development (n=9) and some who did not (n=10). In one of the schools, the same questionnaire was administered again 10 days after the first administration (participants=6, non-participants=6). All 31 questionnaires (19 first pass, 12 second pass) were coded by the evaluator and inserted into a statistical spreadsheet (using SPSS 11).

Phase 4: Statistical Tests for Validity and Reliability

Pearson-R correlation coefficient for test-retest reliability was computed for each item on the responses from the school where the questionnaire was administered twice (n=12). All items with $R < .50$ (1-tail significance level $p > .05$) were omitted; the rest (49) were kept in the same order as they appeared in the second draft.

Somers' D as well as an independent variable t-test comparisons, with participation in Bright IDEA-1 used as independent variable, was computed for each of those 49 items on all first-pass questionnaires (n=19). Twenty-four (24) among these 49 items showed significant level of

between-groups difference, whereas 25 were not significant. Such a difference indicates that these 24 items (questions) clearly distinguish between teachers who participated in Bright IDEA activities, thus adding a layer of criterion validity to the established construct (expert) validity of the questionnaire.

Finally, Alpha-Cronbach measure for internal reliability was computed for the final version of the questionnaire (49 items). For all cases with no missing values (n=13), alpha = .68; when removing items that contribute missing values, alpha level found for 45 items was .60 (n=19). This level, though not very high, seems reasonable for the number of respondents and items.

Conclusion:
The 49-item version of the questionnaire, re-titled Educator Questionnaire to include principals and AIG coordinators, was made final. To this final version, an improved set of 15 biographical questions were added as follows (again, underlined questions indicate a multiple-choice response set): person's name, school's name, teaching/educational work experience, number of schools worked, grade person teaches, current role in school, gender, teaching licensure, National Board Certification, distance from home to school, race, academic major, academic minor, highest academic level completed, number of years participating in Bright IDEA.

Note: The final educator disposition questionnaire included 43 items. From the 49 original questions in the original version, some of the questions were combined into one question to make the final number of 43.

Dr. Ron Tzur is currently in the Mathematics Department at the University of Denver.

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Faculty Research
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Project Bright IDEA-2

Mathematics Problem-Based Questionnaire

Dear third grade student:

- There are 23 math problems in this questionnaire.
- Some problems are easy and some more difficult.
- Try your best to solve each problem.
- Write your answer and explain it (show all your work).
- Your solutions will help your teacher help you in mathematics.
- If you cannot solve a problem, then write “I don’t know.”
- Write the date, your name, your teacher, and your school.

Thank you – and enjoy the challenge!

Date: _____ Student Name: _____

Teacher: _____ School: _____

Question 1

The number 25 comes 1 before 26.

The number 32 comes 3 before 35.

What number comes 4 before 60? Explain.

Question 2

What is the smallest 2-digit number? Explain.

Question 3

3a) What number comes 10 after 99? Explain.

3b) What number comes 9 after 999? Explain.

Question 4

Which is **smaller** (circle the answer and explain below):

a. The difference between 99 and 92

b. The difference between 25 and 11

Question 5

James has 297 pennies. Donna has 305 pennies.

5a) Circle the name of the child who has more pennies:

James Donna

Explain:

5b) How many more pennies does this child have than the other child? Explain.

5c) Suggest at least **two (2) different ways** to add or take pennies so each child has the same number of pennies.
Show and explain your answer below.

Question 6

Solve and explain/show how you found the solution:

6a) 67 + 5 =

6b) 600+ 100 =

6c) 110 – 40 =

6d) 6 X 4 =

6e) 1 X 5 =

Question 7

Tanisha loves rope jumping.

Every day she jumps 400 times altogether, some in the morning and some in the evening.

In the morning of April 30, Tanisha jumped 278 times.

How many more times did she jump in the evening of April 30?

Explain.

Question 8

8a) Write the number that has 6 Tens, 3 Ones, and 5 Hundreds.

8b) What is a number that is the same as ten tens? Explain.

8c) Show and explain **two (2) different ways** to find what will be the **"Tens"** digit for the problem:

627 - 40 = ?

Question 9

Complete the missing numbers in each sequence below.

Below each answer explain how you reached your decisions.

9a) 37, 38, ____, ____, ____, 42, 43

9b) 52, 62, 72, 82, ____, ____, ____

9c) 223, 218, 213, 208, ____, ____, ____

9d) ____, ____, 980, 970, 960, ____, 940

9e) ____, 630, 640, 650, ____, ____, 680

Question 10

Naomi likes to play a guessing game: She guesses the result of flipping a coin, then flips it and sees if she was correct.

She knows that in each flip there is exactly the same chance of getting a “Head” or a “Tail.”

One day, she began playing, flipped 4 times, and got:

1) Head
2) Head
3) Head
4) Head

What do you suggest for her to guess in the next flip? Explain.

Question 11

For his birthday, Pedro received a few cats and a few parrots.

A cat has 4 legs and a parrot has 2 legs.

One day, 5 months after his birthday, Pedro counted 16 legs.

11a) How many cats and parrots might he have counted?
(There is more than one answer – find at least 3.)

11b) How many different combinations of cats and parrots can be found for 16 legs?

Question 12

At the water park there are two slides.

The “Loop Slide” is 65 feet high.

The “Tower Slide” is 28 feet high.

How much shorter is the “Tower Slide?” Explain.

Question 13

There are 264 children at a school.

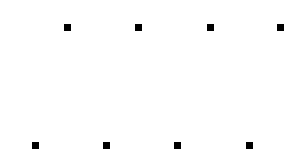
How many teams of 10 could you make with these 264 children?

Explain.

Question 14

Draw a line around **1/4** of the dots below.

Explain how you decided which ones to circle.



Question 15

Draw a line around **1/2** of the stars below.

Explain how you decided which ones to circle.

* * * * * * *

* * * * *

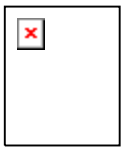
Question 16

Morgan has 517 pennies in her saving box.

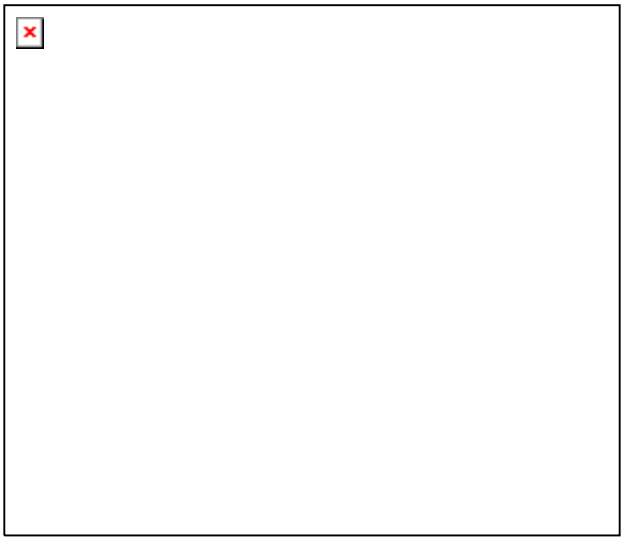
She wants to put them ten pennies in each bag.

How many bags can she fill? Explain.

Question 17

Sean puts cards like this  in his card album.

If one page in his album looks like this,



How many cards does he need to cover one page? Explain.

Question 18

Miguel and Tara counted their marble collections.

Miguel has 23 bags of ten marbles and 13 left over.

Tara has 17 bags of ten marbles and 8 left over.

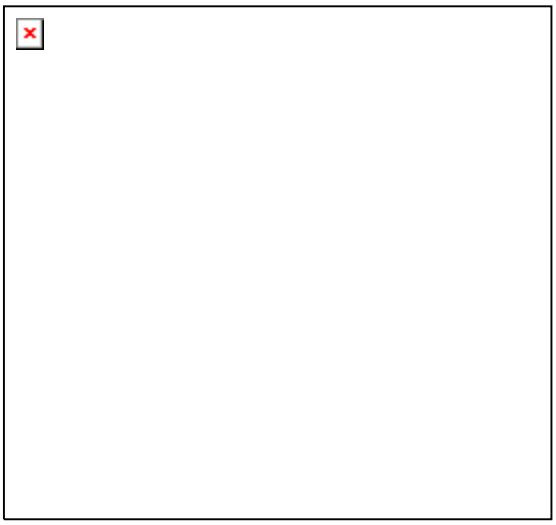
If they put their marbles together how many marbles will there be?

Question 19

Jonah baked 4 cakes for a party.

Each cake has the same size and is cut into 6 equal pieces.

After the party, he had the shaded parts left.



If Jonah puts the leftovers together, what fraction of a whole cake will he have? Explain.

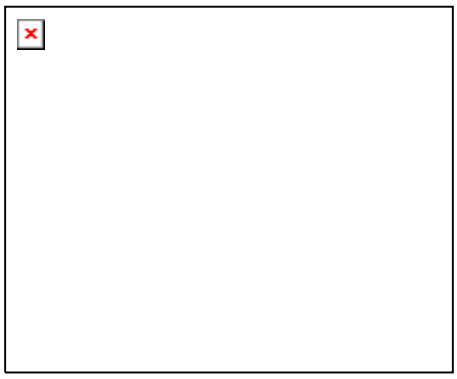
Question 20

Rachel invited three friends to her birthday.

Rachel's friends know she loves to play tennis.

Each friend brought her the same number of tennis balls.

How many tennis balls did each friend bring? Explain.



Question 21

The Briar family collects bottles for recycling.

In October they collected 143 bottles.

In November they collected 321 bottles.

In December they collected 712 bottles.

ABOUT how many bottles did they collect from the beginning of October to the end of December?

CIRCLE your answer and explain how you found it.

a. Less than 650 bottles

b. Between 650 and 750 bottles

c. Between 750 and 850 bottles

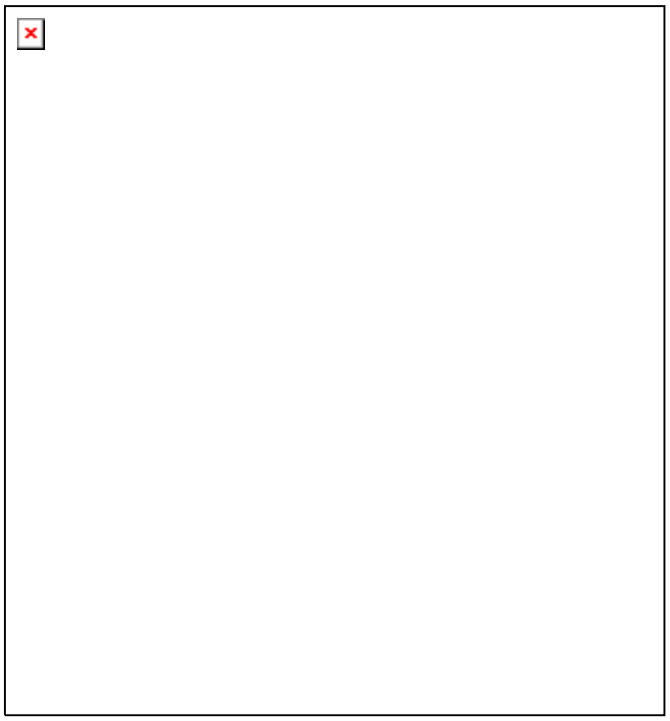
d. More than 850 bottles

Question 22

Mrs. Dunn took a survey.

She asked her class which colors they liked.

Below are the results of what she found.



22a. How many students like Red? Please write their names.

22b. How many students like both Blue and Green? Please write their names.

Question 23

Here are five different numbers, not in any order:

561 187 543 178 420

23a. Write these numbers in the correct order (from large to small).

23b. Explain how you decided which number is the largest.

Project Bright IDEA 2 Teaching Practices
K-2 Observation Tool For Instructional Review
(Buddy System Tool, Not for Evaluation)

School: _____ **Date of Visit** _____

Teacher: _____ **Buddy Teacher** _____ **Grade Level** _____

Essential Question: How are Bright IDEA classrooms different from regular K-2 classrooms?

Instructional Practices (What)	Evidence of Implementation	Application of Best Practice (When & How)	Notes
Rigor and Relevance Using Bright IDEA Concept-Based Units	• Essential Questions • Generalizations • Gifted Intelligent Behaviors • Six Facets of Understanding • Bloom's Revised Taxonomy • Marzano's Taxonomy • Multicultural Materials	• Charts on Evidence Displayed • Evidence not lost is a sea of store bought bulletin boards • Student Products displayed • Display information as taught • Teacher/Student Discussions • Think, Pair, Share • Daily, weekly, other	
Gifted Intelligent Behaviors Habits of Mind (Costa/Kallick) TABS (Frasier) Multiple Intelligences	• Learning Style Centers (Task Rotations) • Multiple Intelligences Centers • Integrated into units and lessons in a natural way	• Charts Displayed as Taught • Teaching styles • Student Products displayed • Teacher/Student Discussions • Think, Pair, Share • Daily, weekly, other	
Thinking Skills (Sandra Parks)	• Students & Teachers Speaking in Complete Sentences • Open-ended inquiry • Use of Manipulatives and Picture Cards • Graphic organizers (Parks, Black & Swartz) • Integrated into Curriculum • Meeting Minimum timelines	• Problem-solving assignments that focus on real world experiences • Daily assignments involving thinking skills concepts/skills • Teacher/Student Discussions • Think, Pair, Share • Student Products displayed • Display information as taught	

		•	
Concept-based Units (Integrated/Interdisciplinary)	• **Organizing Concepts** • **Posting generalizations and essential questions** • **Integration of thinking skills, multiple intelligences and learning styles** • **Curriculum Units** • **Task Rotations**	• **Daily, ongoing** • **Language Arts** • **Science classes** • **Social Studies** • **Math classes** • **Arts**	
Problem-centered, thought-provoking classes	• **Cooperative learning groups designed for nurturing potential in target areas** • **Socratic dialogue** • **Problem solving** • **Intelligent Behaviors (HOM)**	• **Daily, ongoing** • **Flexible grouping based on interest, topics, and skills** • **Inquiry approach**	
Flexible grouping	• **Charts with different groups according to abilities, interests, skills, culture and learning styles and etc.** • **Student groups that are homogeneous and/or heterogeneous in readiness level**	• **Daily, ongoing** • **All subjects** • **Needs based**	
Authentic assessment	• **Performance-based tasks** • **Self-reflection opportunities** • **Response journals** • **Writing folders** • **Rubrics** • **Student Interest Inventories**	• **Ongoing** • **All areas**	
Learning Centers	• **Skills and learning styles matched with student** • **Student choice** • **Student collaboration and cooperation** • **Teacher facilitator**	• **Special times** • **All areas**	
Variety of Resources for Differentiation	• **Multicultural materials** • **Variety of materials (Student work)**	• **Daily, ongoing** • **All areas**	

	• **Professional Books** • **Student Books**		
Concrete Experiential learning	• **Simulations** • **Classroom design** • **Field trips** • **Manipulatives** • **Student groups** • **Computer Utilization** • **Software Available** • **Real World Learning Tasks**	• **Daily, ongoing** • **All areas**	
Instructional Planning	• **Designs content-rich, strength-based, problem-centered differentiated curricula that relate to and expand the objectives of the SCOS.** • **Explores generalizations and essential questions that align with stated objectives.**	• **Daily; ongoing** • **Needs Assessment for Instruction**	
Additional Best Teaching Practices			

Comments:

Note to Teachers: Use as a guide when visiting your buddy. You do not need to fill out every block, but rather take notes on the things that you observe or talk about with your buddy. As we implement this year we will want to revise this tool so that it is easy to use and valuable for collecting information that will help us improve the training and implementation of Bright IDEA. Your input is important to us in this process so make suggested revisions to the instrument.

Project Bright IDEA 2: Multicultural Book List
Javits Federal Funds - Materials - Order from Quail Ridge Books
Order 2 of each title

Harvesting Hope: The Story of Cesar Chavez by Kathleen Krull, Harcourt Children's Books, 2004
$17.00
Leonardo: Beautiful Dreamer by Robert Byrd, *Dutton Children's Books, 2004.* $17.99

The Man Who Made Time Travel by Kathryn Lasky, Melanie Kroupa. Books/Farrar, Straus and Giroux, 2004. $17.00.

Rachel: The Story of Rachel Carson by Amy Ehrlich. Harcourt Children's Books, 2004. *$16.00*

Panda Bear, Panda Bear, What Do You See? By Bill Martin, Jr. Henry Holt Books, 2004. $15.95

Recycle Every Day! Nancy Elizabeth Wallace Marshall Cavendish Children's Books, 2004. *$16.95*

Beautiful Blackbird by Ashley Bryan, Atheneum Books for Young Readers, 2004. *$16.95*

Kogi's Mysterious Journey by Elizabeth Partridge, Dutton Children's Books, 2004. *$17.95*

Moon's Cloud Blanket by Rose Ann St. Romain, Pelican Publishing Company, 2004. *$15.95*

Coming To America: A Muslim Family's Story by Bernard Wolf, Lee and Low Books, 2004. *$17.95*

Everybody Works by Shelley and Ken Kreisler, The Millbrook Press, 2004. $23.90

Grand Central Terminal: Gateway to New York City by Ed Stanley, Mondo Publishing, 2004. *$16.95*

It's Back to School we Go! Day Stories From Around the World by Jan Davey Ellis, The Millbrook Press, 2004. *$15.95*

The Great Expedition of Lewis and Clark by Private Reubin Field, Member of the Corps of Discovery by Judith Edwards, Farrar, Straus and Giroux, 2004. $17.00

Whale Snow by Debby Dahl Edwardson, Charlesbridge, 2004. $15.95

Bluebonnet Girl by Michael Lind, Henry Holt Books for Young Readers, 2004. $16.95

Old Truth and the Broken Truth by Douglas Wood, Scholastic Press, 2004. $17.95

Respecting Others by Robin Nelson, Lerner Publications, 2004. $15.93

The Hard-Times Jar by Ethel Footman Smothers, Farrar, Straus and Giroux, 2004. $16.00

Send I! Don Carter, Roaring Brook Press,2004. $19.90

TOTAL: $425.37

Additional Options

The Littlest Matryshka by Corinne Demas Bliss, Hyperion Books for Children, 1999. Price Unknown

New Year Be Coming!: A Gullah Year by Katharine Boling, Albert Whitman and Company, 2002. *$15.95*

Grandfather Counts by Andrea Cheng, *Lee & Low Books, 2000.* $6.95

The Long Wait by Annie Cobb, Kane, 2000. *$4.95*

The Night of Las Posadas by Tomie dePaola, G.P. Putnam's Sons, 1999. *$15.99*

Deena's Lucky Penny by Barbara deRubertis, Kane,1999. *$12.95*

Lulu Lemonade by Barbara deRubertis, Kane,2000. *$4.95*

Strawberry Moon by Karen English, Farrar, Straus & Giroux, Inc.,2001. *$16.00*

Feliz Navidad: Two Stories Celebrating Christmas by Jose Feliciano, Cartwheel/Scholastic,2003. *$15.95*

When Uncle Took the Fiddle by Libba Moore Gray, Orchard/Franklin Watts, Inc.,1999. *$5.95*

Danitra Brown Leaves Town by Nikki Grimes, HarperCollins Children's Book, 2001. *$11.19*

Under the Quilt of Night by Hopkinson, Deborah, Athenum/S/S, 2001. *$11.87*

Maniac Monkeys on Magnolia Street by Angela Johnson, Knopf/Random House, Inc., 1999.

We All Went on Safari: A Counting Journey through Tanzania by Laurie Krebs, Barefoot Books, 2003. *$11.17*

The Gold-Threaded Dress by Carolyn Marsden, Candlewick Press, 2002. *$14.99*

Molasses Man by Kathy May, Holiday House, 2000. *$16.95*

The Honest-to-Goodness Truth by Patricia C. McKissack, Atheneum, 2002. *$16.00*

Goin Someplace by Patricia C. McKissack, Atheneum/S&S, 2001. *$16.00*

The Blind Hunter by Kristina Rodanas, Cavendish, 2003. *$16.95*

Minnie Saves the Day by Melodye Benson Rosales, Little, Brown & Company, 2001. *$12.95*

The Barking Mouse by Antonio Sacre, Albert Whitman and Company, 2003. *$15.95*

Terrific Trickster Tales from Asia by Cathy Spagnoli, Highsmith, 2001. *$15.95*

The Case of the Fire Crackers by Laurence Yep, HarperCollins Children Books, 1999. *$5.99*

The Magic Paintbrush by Laurence Yep, HarperCollins Children's Books, 2000. $5.99

Cockroach Cooties by Laurence Yep HarperCollins Children's Books, 2000. $5.99

TOTAL: $277.58

Multicultural Book List – Cohort 2

Funded by Javits Federal Funds – Order from Quail Ridge Books - $5403.88

Selected from 2005 Social Studies Trade Books

No.	ISBN	Cost	Author	Title and Publisher	Total
12	0-375-92298-9	$18.99	Krull, Kathleen	The Boy on Fairfield Street: How Ted Geisel Grew Up to Become Dr. Seuss, Random House	227.88
12	0-618-14094-8	$15.00	Turner, Pamela	Hachiko: The Ture Story of a Loyal Dog, Houghton	180.00
12	1-58430-170-8	$16.95	Barasch, Lynne	Knockin' on Wood: Starring Peg Leg Bates, Lee and Low Books	203.40
12	0-618-36947-3	$16.00	Rumford, James	Sequoyah: The Cherokee Man Who Gave His People Writing, Houghton	192.00
12	1-57091-508-3	$15.93	Wahl, Jan	Candy Shop, Charlesbridge Publishing	191.16
12	1-58234-946-0	$17.95	Roth, Susan	Hard Hat Area, Bloomsbury Children's Books	215.40
12	0-06-623935-4	$15.99	Baker, Jeannie	Home, Greenwillow Books	191.88
12	0-0670-05898-X	$15.95	Gardiner, Lindsey	Remember, Grandma, Puffin Books	191.40
12	0-374-31825-5	$16.00	Kimmel, Eric	Don Quixote and the Windmills, Farrar, Strauss	192.00
12	0-375-82386-7	$15.95	Wojciechowski, Susan	A Fine St. Patrick's Day, Random House	191.40
12	1-57091-504-0	$15.95	Ajmera, Maya	Be My Neighbor, Charlesbridge Publishing	191.40
12	0-525-47288-6	$17.99	Sobol, Richard	An Elephant in the Backyard, Dutton	215.88
12	0-7636-2223-0	$16.99	Yang, Belle	Hannah is My Name, Candlewick Press	203.88
12	0-374-31289-3	$16.00	Theis Raven, Margo	Circle Unbroken, Farrar, Strauss	192.00
12	0-618-30564-5	$16.00	Connor, Leslie	Miss Birdie Chose a Shovel, Houghton	192.00
12	0-8075-0918-3	$15.95	Bateman, Teresa	The Bully Blockers Club, Albert Whitman	191.40
12	0-399-23727-5	$15.99	Hall, Bruce	Henry and the Kite Dragon, Puffin Books	191.88
12	0-8037-2900-6	$16.99	Ripley, Marion	Private and Confidential: A Story About Braille, Dial Books	203.88
12	0-7636-1875-6	$16.99	Noyes, Deborah	Hana in the Time of the Tulips, Candlewick Press	203.88

Selected from 2004 Social Studies Trade Books

No.	ISBN	Cost	Author	Title and Publisher	
12	0-374-32534-0	$16.00	Chandra, Deborah	George Washington's Teeth, Farrar, Strauss	192.00
12	0-06-029804-6	$17.98	Goble, Paul	Mystic Horse, Harper Collins	215.76
12	0-374-32410-7	$16.00	Drummond, Allan	The Flyers, Farrar, Strauss	192.00
12	0-06-623747-5	$17.89	Longfellow, Henry W.	Paul Revere's Ride, Harper Collins	214.68
12	1-56145-221-1	$16.95	Uhlberg, Myron	The Printer, Peachtree Publishing	203.40

Other selected from books at Quail Ridge

No	ISBN	Cost	Author	Title and Publisher	
12	0-618-44557-9	$16.00	Ogburn, Jacqueline	The Bake Shop Ghost, Houghton, 2005	192.00
12	0-399-24463-8	$16.99	Britt, Jan	Honey, Honey, Lion, Putnam, 2005	203.88
12	0-8109-5044-8	$18.95	Base, Grameme	Jungle Drums, Abrams, 2005	227.44

Multicultural Book List – Cohort 3

Funded by Javits Federal Funds

Selected from 2006 Social Studies Trade Books

No.	ISBN	Cost	Author	Title and Publisher	Total
12	1-57091-510-5	$19.95	Harwell, Anne	Bach's Goldberg Variations – Charlesbridge Publishing	239.40
12	0-618-44911-6	$16.00	Edwards, Pamela	The Bus Ride that Changed History:Story of Rosa Parks-Houghton	192.00
12	0-8028-5217-3	$16.00	Bryant, Jen	Georgia's Bones - Eerdmans Books for Young Readers	192.00
12	0-8050-6373-0	$16.95	Markel, Michelle	Dreamer From the Village: Story of Marc Chagall – Henry Holt	203.40
12	0-374-33527-3	$16.00	White, Linda	I Could Do That! Esther Morris Gets Women the Vote – Farrar	192.00
12	0-525-46955-9	$16.99	Yolen, Jane	The Perfect Wizard: Hans C. Andersen – Dutton Children's Books	203.88
12	0-689-85643-1	$16.95	Winter, Jonah	Roberto Clemente: Pride of Pittsburgh Pirates – Atheneum	203.40
12	0-8234-1868-5	$16.95	Dooling, Michael	Young Thomas Edison – Holiday House	203.40
12	0-15-205445-6	$16.99	Winter, Jeanette	The Librarian of Basra: True Story from Iraq – Harcourt	203.88
12	1-57091-666-7	$21.95	Heydlauff, Lisa	Going to School in India - Charlesbridge Publishing	263.40
12	0-88240-604-3	$15.95	Aillaud, Cindy Lou	Recess at 20 Below – Alaska Northwest Books	191.40
12	0-8027-8958-7	$17.85	London, Jonathan	Sled Dogs Run – Walker	214.20
12	0-7922-8297-3	$16.95	Kerley, Barbara	You and Me Together: Moms, Dads & Kids Around World National Geographic Children's Books	203.40
12	1-56145-329-3	$16.95	Uhlberg, Myron	Dad, Jackie and Me – Peachtree Publishers	203.40
12	0-399-23738-0	$16.99	St.George, Judith	The Journey of the One and Only Declaration of Independence Philomel Books	203.88
12	0-7636-2387-3	$15.99	Tavares, Matt	Mudball – Candlewick Press	199.88
12	0-399-23749-6	$16.99	Woodson, Jacqueline	Show Way – G.P. Putnam's Sons	203.88
12	0-618-44887-x	$16.00	Prince, April Jones	Twenty-one Elephants and Still Standing – Houghton	192.00
12	0-689-86866-9	$16.95	Nolen, Jerdine	Hewitt Anderson's Great Big Life – Paula Wiseman Books/Simon	203.40
12	0-8027-8941-2	$16.95	Lo, Ginny	Mahjong All Day Long – Walker and Company	203.40

Selected from 2005 Social Studies Trade Books

No.	ISBN	Cost	Author	Title and Publisher	Total
12	1-58430-170-8	$16.95	Barasch, Lynne	Knockin' on Wood: Starring Peg Leg Bates - Lee and Low Books	203.40
12	0-618-36947-3	$16.00	Rumford, James	Sequoyah: The Cherokee Man Who Gave His People Writing, Houghton	192.00
12	1-58234-946-0	$17.95	Roth, Susan	Hard Hat Area - Bloomsbury Children's Books	215.40
12	0-374-31825-5	$16.00	Kimmel, Eric	Don Quixote and the Windmills - Farrar, Strauss	192.00
12	0-375-82386-7	$15.95	Wojciechowski, Susan	A Fine St. Patrick's Day - Random House	191.40
12	0-7636-2223-0	$16.99	Yang, Belle	Hannah is My Name - Candlewick Press	203.88
12	0-399-23727-5	$15.99	Hall, Bruce	Henry and the Kite Dragon - Puffin Books	191.88
12	0-7636-1875-6	$16.99	Noyes, Deborah	Hana in the Time of the Tulips - Candlewick Press	203.88

Selected from 2004 Social Studies Trade Books

No.	ISBN	Cost	Author	Title and Publisher	
12	0-06-029804-6	$17.98	Goble, Paul	Mystic Horse - Harper Collins	215.76
12	0-374-32410-7	$16.00	Drummond, Allan	The Flyers - Farrar, Strauss	192.00
12	0-06-623747-5	$17.89	Longfellow, Henry W.	Paul Revere's Ride - Harper Collins	214.68

Other selected from books at Quail Ridge

No	ISBN	Cost	Author	Title and Publisher	
12	0-52547-033-6	$17.99	Byrd, Robert	Leonardo: Beautiful Dreamer – Penguin Books	215.88
12	0-06-443722-1	$16.99	Aliki	William Shakespeare & the Globe – Harper Collins	203.80
12	0-7868-0914-0	$15.95	Juster, Norton	The Hello, Goodbye Window – Hyperion Books	191.40

RESOURCES
Professional Development: Consultants, Trainers and Resource Materials
Project Bright IDEA: Interest Development Early Abilities
Javits Grant funded by the US Department of Education, 2004-2009

Alexander, Irving, Ph.D. Department of Psychology. Duke University. Personology, Method and Content in Personality Assessment and Psychobiograhpy. Duke Press, 1990. (Deceased 2007)
Past President, AAGC and Consultant to Co-Designers, Margaret Gayle and Valorie Hargett on the framework for the Professional Development Model and Assessing Habits of Mind/Gifted Behaviors.

Anderson, Lorin and David R. Krathwohl. A Taxonomy for Learning, Teaching and Assessing. A Revision of Bloom's Taxonomy of Educational Objectives. Longman, 2001.

Costa, Arthur and Bena Kallick. Discovering & Exploring Habits of Mind, Bk.1, ASCD, 2000.

Costa, Arthur and Bena Kallick. Activating & Engaging Habits of Mind, Bk. 2 #100033W61, ASCD, 2000.

Costa, Arthur and Bena Kallick. Assessing & Reporting Habits of Mind, Bk.3 # 100034W61, ASCD, 2000.

Costa, Arthur and Bena Kallick. Integrating & Sustaining Habits of Mind, Bk.4 # 100035W61, ASCD, 2000.

Costa, Developing Minds, Editor. A Resource Book for Teaching Thinking, 3rd Ed. # 101063Y80, ASCD. 2001.

Frasier, Mary, Ph.D. Talents, Attributes and Behaviors. University of Georgia, 2003-2004 Trainer for Bright IDEA 1 Pilot Program and Consultant and Mentor to Co-Designers for Bright IDEA 2. (Deceased)

Gayle, Margaret Evans. Co-Designer and Project Manager for Bright IDEA. Interest Development, 2001.

Hargett, Mary "Valorie" Hargett. Co-Designer, Author and Trainer, Concept-Based Curriculum Framework, Unit Template, and Rubrics on Pre and Post Assessments - Gifted Intelligent Behaviors.

McTighe, Jay and Grant Wiggins. Understanding by Design, Professional Development Workbook #103056W31, ASCD, 2004.

Marzano, Robert J. Building Background Knowledge for Academic Achievement. ASCD, 2004.

Marzano, Robert J. Designing a New Taxonomy of Educational Objectives. Corwin Press, 2001.

Marzano, Robert J. and John S. Kendall. The New Taxonomy of Educational Objectives, Second Edition. Corwin Press, 2007.

Parks, Sandra and Howard Black. Building Thinking Skills Program, K-1 and 2-3. Ventures Thinking, 2004. Teacher's Manual. Student Books.

Sheffield, Linda Jensen. Extending the Challenge in Mathematics. Corwin Press and Texas Association for the Gifted and Talented. 2003.
(John Olive, Ph.D., Professor in Mathematics Education at the University of Georgia was the trainer for mathematics for teaching the young child based on his research and Dr. Sheffield's book.)

Silver, Harvey F, Richard W. Strong and Matthew J. Perini. So Each May Learn, Integrating Learning Styles and Multiple Intelligences. #100058W31, ASCD, 2000.
(Dan Moirao, Consultant, was the trainer based on his reading, writing and math strategies and task rotations and using Silver and Strong's work.)

Smutny, Joan Franklin and S.E. von Fremd. Differentiating for the Young Child. Corwin Press, 2004

Additional Mathematics Training: Ron Tzur, Ph.D. trained principals and instructional specialists in teaching place value and the bases to young children. Matt Lambert, Rachael Kenney and Evan McClintock, Research Assistants trained the teachers on how to teach place value and base ten to young children.

Mentors/Trainers: A number of mentor/trainers from the AIG Coordinators for Bright IDEA conducted follow-up training and review sessions both on-site and in large group instruction, using model lessons. Many serve as trainers for model lessons and mentors in their districts.

North Carolina Resources

Increasing Opportunity to Learn via Access to Rigorous Courses and Programs: One Strategy for Closing the Achievement Gap for At-Risk and Ethnic Minority Students. A report prepared for the North Carolina Department of Public Instruction by:William Darity, Jr. and Karolyn Tyson, University of North Carolina at Chapel Hill and Domini Castellino, Duke University. Submitted to the State Board of Education, May 2001. (In response to State Law2000-67, Section 8.28(b), which directed the State Board to study the under-representation of minority and at-risk students in Honors classes, Advanced Placement and academically gifted programs.) For the full report: **www.ncpublicschools.org**

State Law: 115C-150S - Article 9B was passed in 1996 to broaden the definition of academically gifted and to give school districts flexibility in determining how gifted students are identified.

Project Bright IDEA 1, Final Report, May 27, 2005. Project Bright IDEA 2, Updates. Exceptional Children Division, North Carolina Department of Public Instruction and The American Association for Gifted Education, Duke University. www.aagc.org, www.ncpublicschools.org.

Other Resources for Curriculum, Instruction and Technology

Barker, Joel on Paradigm Shifts and Education, Google his name.

Gardner, Howard, *Five Minds for the Future*. Harvard Business School Press, 2006

Jensen, Eric. *Brain Based Learning. The New Paradigm of Teaching*. Corwin Press, 2008.

Web Sites for Bright IDEA Videos

- **www.aagc.org** (The American Association for Gifted Children) - Duke University; Duke Office Hours & Links: http:// is.gd/Duke_IDEA
- **http://ec.ncpublicschools.gov/instructionamidrange90940l-resources/bright-idea** Project Bright IDEA (Exceptional Children Division), NCDPI
- **http://is.gd/a2vu3** *NC Now*, UNCTV on March 1, 2010 or **http://flash.unctv.org/ncnow/ncn_mwatson_wdarity_030110.html**
  Mary Watson, Director, Exceptional Children Division, North Carolina Department of Public Instruction and Principal Investigator, Project Bright IDEA and Dr. William A. Darity, Arts & Sciences Professor of Public Policy Studies, Professor of African and African-American Studies and Economics at Duke University and Board Member of The American Association for Gifted Children discuss, Project Bright IDEA, and the rationale for the research on.
- http://is.gd/Leonardo, Leonardo The Dreamer, A debate by 1st and 2nd graders on Leonardo and Michelangelo and who is the greatest creator of their time. Based on an interdisciplinary unit of study on state standards.
- Bill Lovin's Website for Classroom Videos: www.marinegrafics.com/briteideas/
- Website for Bright IDEA Interviews of administrators: http://www.bookosphere.net/briteidea.htm

Increasing Opportunity to Learn via Access to Rigorous Courses and Programs:

One Strategy for Closing the Achievement Gap for At-Risk and Ethnic Minority Students

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Foreword

The North Carolina State Board of Education submits the report - *Increasing Opportunity to Learn via Access to Rigorous Courses and Programs: One Strategy for Closing the Achievement Gap for At-Risk and Ethnic Minority Students* - in response to SL2000-67, Sec. 8.28(b). This legislation directed the State Board of Education to study the underrepresentation of minority and at-risk students in Honors classes, Advanced Placement (AP) classes, and academically and intellectually gifted (AIG) programs; to evaluate whether this underrepresentation contributes to the gap in student achievement; to examine the criteria used to identify whether a student is eligible for one of these classes or programs and how objective these criteria are; and to explore the extent to which low academic expectations contribute to the underrepresentation.

This report documents and analyzes the underrepresentation of minority students in Honors courses, AP courses, and AIG programs. It concludes that the gap between White and minority (specifically Black, Hispanic, and American Indian) students in proportional percentages of students enrolled in such programs is significant and widespread. While it is impossible to determine causality without experimental designs, these analyses show that achievement and learning difference gaps lead to lower subsequent identification for AIG programs in early and middle grades, which in turn contribute to lower enrollments in high school AP and Honors courses. Minority students who are identified as AIG in the earlier grades are more likely to be enrolled in more advanced courses in high school. That is, the cycle likely exacerbates the problem as students move through school. Therefore, underrepresentation likely contributes to the gap in student achievement, but the reverse is also true.

Schools, for the most part, are using multiple strategies for identifying students as AIG. Article 9B, passed in 1996, gives schools flexibility in how AIG students are identified, and many schools seem to be using this flexibility to better identify minority students. Others need to improve their strategies, and this study will help the NC Department of Public Instruction to continue giving guidance to these LEAs to improve existing identification strategies. Based on a survey returned by half the high schools in the state, approximately half of those high schools allow self-selection into Honors Courses (57%), AP Courses (48%) and Dual Enrollment into college/community college courses (42%). However, about one-fourth of the high schools surveyed reported that qualified students decline placement into AP courses either "often or very often." In addition, not all high schools are able to offer a large number of advanced courses for logistical and other reasons. So the challenges appear both in terms of access and placement, as well as student motivation.

The report also shows that, while the participation gap exists statewide, there are some schools that better approach a proportional enrollment in advanced courses for their minority students. The researchers offer a number of suggestions and recommendations based on their findings, but they conclude that the most important aspect of this challenge is the **will** to do something about it. Awareness of the extent of the problem is a beginning step in asserting that will.

The North Carolina Department of Public Instruction (DPI) is planning to respond to this report in several ways.

- The report will be disseminated to all school superintendents and members of the Superintendent's advisory committees, placed on the DPI Web Page, and "advertised" through the DPI's principal and teacher on-line newsletters.

- It will be shared and discussed with the DPI Commission on Closing the Gap, chaired by Dr. Robert Bridges, the Compliance Commission for Accountability, as well as the Closing the Gap Section in the Division of School Improvement for actions that may be appropriate for those groups.

- An intra-agency team consisting of members from all relevant DPI Divisions will be convened to determine how the recommendations can be addressed in an expeditious manner. Implications for various Agency guidelines, publications, grant seeking, sharing promising practices, or other actions will be explored.

This evaluation is a significant step in addressing a key barrier to high levels of achievement for many minority students. We are eager to continue studying its implications as we find ways to reduce the achievement gap between White students and those of ethnic minority groups.

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Phillip J. Kirk, Jr., Chair, N. C. State Board of Education

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Michael E. Ward, Superintendent, N. C. Department of Public Instruction

Evaluation Process and Acknowledgments

This evaluation of the underrepresentation of minority and at-risk students in advanced programs and courses was conducted primarily by external evaluators and guided by an intra-agency team in the North Carolina Department of Public Instruction (DPI) consisting of representatives from the Divisions of Accountability Services, the Exceptional Children Division, and the Division of Instructional Services. Dr. William Darity, UNC-CH and Duke University, was the lead external evaluator, joined by Dr. Karolyn Tyson, UNC-CH, and Dr. Domini Castellino, Duke University. Dr. Carolyn Cobb, Evaluation Section, Division of Accountability Services coordinated the DPI team, joined by Dr. Bradley McMillen (Accountability Services), Valorie Hargett and David Mills (Exceptional Children Division), and Dr. Wandra Polk (Division of Instructional Services).

Dr. Darity and his colleagues conducted analyses using extant DPI databases to examine the underrepresentation of minority students, variables associated with that underrepresentation, and distribution of the underrepresentation across various types of schools. Dr. McMillen was instrumental in identifying those databases, as well as sending and explaining the data to the evaluators. Dr. Darity provided oversight of the total evaluation and was a primary author. Dr. Castellino was a primary quantitative analyst. Dr. Tyson conducted team visits to the 11 case study schools, selected jointly by the external and DPI teams, and wrote the qualitative sections of the report. Dr. Polk participated in one of the case study visits. Mrs. Hargett provided the information on the current state of AIG practices and some of the current initiatives underway.

Dr. Cobb and Dr. Tyson led the development of the survey sent to all schools by Dr. Tyson - who conducted and interpreted all analyses of the survey results. Dr. Cobb, Dr. McMillen, and Mrs. Hargett made on-site visits to two LEAs (and schools in those LEAs) and conducted in-person and telephone interviews with representatives of two other LEAs that appeared to have some promising directions and practices emerging from their new plans under Article 9B.

Dr. Darity and his colleagues submitted the final report to DPI. Dr. McMillen provided key editing and formatting for the body of the report submitted by the external team. Dr. Cobb also contributed to the editing and developed the recommendations for the DPI team based on ongoing conversations and feedback, as well as the findings of the visits to leading LEAs.

Both internal and external evaluators communicated closely throughout the evaluation process. Dr. Darity and his team made recommendations based on the quantitative data, the survey data, and the case study visits. The DPI staff made recommendations based on observed program practices throughout the state and the visits or conversations with four LEAs and two schools with promising practices. On reviewing both sets of recommendations, there was considerable overlap, although some were unique; and the two sets were combined.

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I. State Context – Services for Academically or Intellectually Gifted (AIG) Students

Legislation Governing AIG Services

The North Carolina General Assembly enacted Article 9B in 1996 to broaden the definition of academically gifted to include

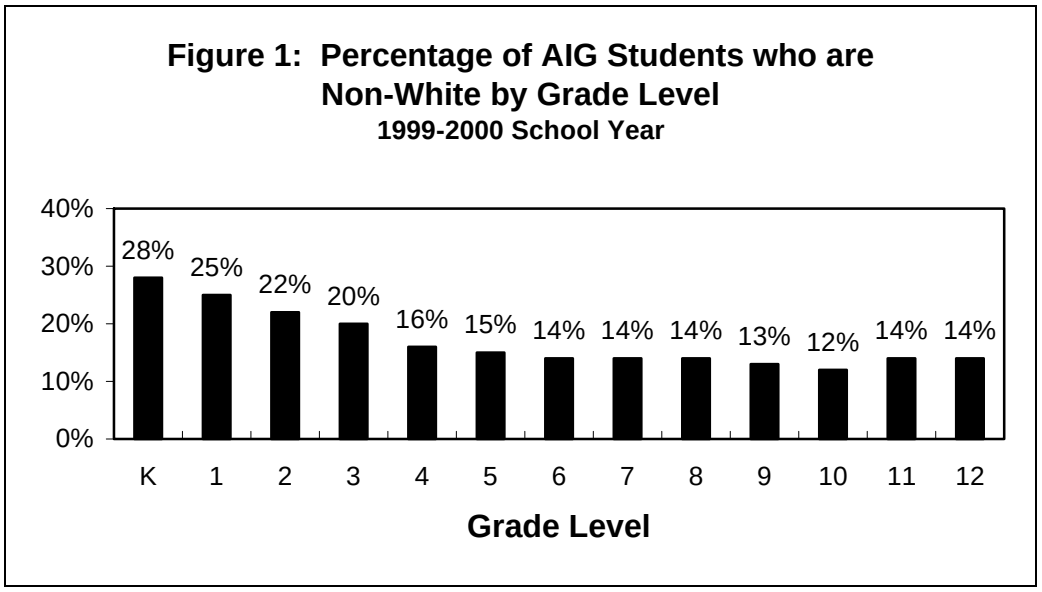
> *Academically or intellectually gifted students perform at substantially high levels of accomplishments when compared with others their age, experience, or environment. Academically or intellectually gifted (AIG) students exhibit high performance capability in intellectual areas, specific academic fields, or in both intellectual areas and specific academic fields. Academically or intellectually gifted students require differentiated education services beyond those ordinarily provided by the regular educational program. Outstanding abilities are present in students from all cultural groups, across all economic strata, and in all areas of human behavior.*

This legislation also required local boards of education to develop plans that give local education agencies (LEAs) greater control and flexibility for identification and services. Under the guidance of the North Carolina Department of Public Instruction (DPI) and Statewide Technical Assistance in Gifted Education (STAGE), LEAs began the task of addressing all components of the new legislation with a special focus on developing and implementing academically or intellectually gifted (AIG) programs for minority and economically disadvantaged students. LEAs were to develop three-year plans for the identification of and service delivery to AIG students. The first 3-year plan cycle is just ending (2000-2001) and new plans are currently in development. Both DPI and LEAs have been working with the new, flexible identification criteria and moving to develop guidelines for more targeted, focused, and rigorous programs to serve a variety of talented students.

Instead of using the traditional screening and identification process of standardized assessments for AIG placement, LEAs are developing multiple identification criteria so that no one criterion excludes a student from admission to gifted programs. A small increase in ethnic minority representation has been noted (see Figure 4 on page 16), but to date, a significant overall increase has not yet been achieved during the first three-year cycle of implementation of these plans.

LEAs, however, have strongly expressed a need for more time for the new changes made in identifying and serving AIG students to yield desired results. Given that tens of thousands of students who were identified before the new legislation went into effect are still in AIG programs, changes will occur slowly over time and will probably occur first in the elementary grades, since those are the years when students are typically first identified as AIG. Data from the 1999-2000 school year seem to support this shift, with minorities making up a larger percentage of the state's AIG population in the early elementary grades than in later grades

(Figure 1). Although it cannot be stated conclusively, this trend *could* be related in part to the new identification procedures ushered in by Article 9B.



Counting AIG students statewide is made more challenging under the new identification procedures, since LEAs have different identification methods and types of service delivery programs. Many LEAs are beginning to emphasize different levels of advanced service to students, from nurturing academic promise at earlier grades to intense accelerated learning for a few students. Which students are actually counted as AIG varies across LEAs. That is, some LEAs count only those few students served in pullout or highly targeted academic programs. Other LEAs count students who receive less intensive services that nonetheless exceed what is offered to typical students in the regular classroom, perhaps through a special focus within the regular classroom.

The quality and focus of service delivery may vary greatly. The DPI is working with LEAs and universities to develop models and guidelines that provide standards and criteria for focused service delivery, especially with respect to nurturing potential AIG students who show academic promise at an early age. In addition, it is increasingly recognized that increased minority and disadvantaged student representation in AIG programs will involve supporting the whole child, including meeting socio-emotional needs. A sense of confidence and self-efficacy, as well as support for rigorous work outside the school, are necessary to encourage participation and success in AIG programs and these traits may be less evident in some minority and at-risk students.

As the state moves into developing the next set of three-year program plans, LEA's are focusing heavily on **continuing** and **expanding** K-12 services to underrepresented ethnic minority and economically disadvantaged students. Priorities for the state in collaboration with LEAs and universities/colleges are:

- to provide earlier nurturing programs starting at the kindergarten level, that focus on creative and critical thinking skills, problem solving, social and emotional needs, and the development of student interests,
- to continue developing multiple criteria for appropriate assessment of students beyond the standardized cognitive and achievement tests that are the norm for most AIG programs across the nation, and
- to help LEAs develop better defined and rigorous levels of service delivery based on the differentiated needs of individual students. These service delivery levels should include social and emotional support mechanisms for students.

The programs listed below and in Section II represent some of the major initiatives underway across the state and are examples of the innovative programs emerging since the passage of Article 9B.

State AIG Initiatives

Nurturing Potential and Developing Talent K-3 Committee. This pilot program was constructed to nurture potential and talent that will lead to identifying students from underrepresented populations for AIG programs and to identify program components that will operate at the levels of readiness of individual students from different ethnic and economic backgrounds. This committee will oversee a three-year pilot program that will use research-based curriculum and professional development models, parental involvement strategies, and multiple assessments and criteria based on Mary Frazier's *Ten Core Attributes* for identifying high potential in minority students and students from other underrepresented populations. A grant proposal has been submitted through Duke University for additional funding.

Honors and Pre-Advanced Placement (AP) Gifted Curricula Development Institute Project. The use of rich, varied curricular gifted models based on the works of Howard Gardner, June Maker, Grant Wiggins, and Michael Thompson were introduced to a selected group of Honors and AP English teachers at the June 2000 Gifted Curricula Development Institute. The Honors and Pre-AP English curricula developed from this institute are presently being field tested throughout the state by these teachers. The advanced curricular resource study units developed through this institute will be made available to LEAs this fall. A second summer institute is in the planning stages for these teachers in order to continue the curricular initiative of designing rigorous and challenging courses that prepare students to enter AP classes. Ten counties are participating across the state in this two-year project: Union, Franklin, Gaston, Cherokee, Davidson, Robeson, Brunswick, Dare, Yadkin, and Rowan.

LEA Curriculum Project. According to June Maker from the University of Arizona, a national leader in developing promising identification strategies of gifted minority students, "Changes in identification practices must be accompanied by changes in curriculum and instruction and in the perceptions of those implementing, evaluating, and being served by special programs especially parents (Maker, 1996)." Buncombe County's AIG administrators/ specialists and the DPI AIG consultant have initiated a two-year gifted 5th and 6th grade curriculum-writing project. After local field-testing and revision, this multiple intelligences-

based, problem-centered curriculum will be shared with other LEAs if it shows promise in providing a rigorous curriculum that prepares students for Honors and AP classes.

Social-Emotional Guidance and Counseling (optional component to locally-developed AIG plans). Based on the national gifted program standards and focus group comments from state AIG program reviews, an *optional* socio-emotional guidance and counseling component has been added to the state rubric for locally developed plans. According to Karin Frey, Director of Research and Evaluation for the Committee for Children and co-author of *Promoting Social and Emotional Learning: Guidelines for Educators*, "Children's emotions can either facilitate academic learning, or they can act as a roadblock to that learning" (Elias et al., 1997). By adding this component to the local plans, it provides a more focused avenue for systemic planning to occur that will address the needs of the whole child. Many LEAs are planning to add, develop, and implement this component during the next three-year cycle.

University-Based AIG Initiatives

U-STARS – Using Science Talents and Abilities to Recognize Students [Dr. Mary Ruth Coleman,University of North Carolina – Chapel Hill]. The purpose of this Javits[1] grant is to support districts in early recognition and cultivation of potential in young students (preK-2) from economically disadvantaged and culturally diverse families. There are three collaborating districts – Edgecombe, Nash-Rocky Mount, and Northampton– working with project staff to demonstrate effective strategies for incorporating and sustaining the new identification and service delivery practices. One of the major goals in this project is to develop challenging and engaging science units and activities supporting the development of potential in young students.

INSIGHTS [Dr. Shelagh Gallagher, University of North Carolina – Charlotte]. INSIGHTS, a three-year Javits grant, is a program for middle school disadvantaged gifted (DG) students, their teachers and their parents. Evolving from an extensive review of literature on gifted education, INSIGHTS responds to the systemic needs of DG middle school students with a unique, multifaceted model uniting school, student and community. At the core of the model is an academic program with a focus on problem-based learning (PBL) that uses 1) differentiated lessons to identify top students on a unit-by-unit basis, 2) a two-to-three week interdisciplinary PBL unit with embedded differentiated activities, and 3) an additional three weeks of self-contained, pull-out programming based on a modified version of the Autonomous Learner Model[2] where students learn both self-directed study skills and also self-efficacy as a learner. A particularly strong feature of this grant is a parent and community component where parents develop strategies to help DG students through a Community Resource Group. Two middle schools, one in Gaston County and one in Wilson County, are project sites for the implementation of this grant.

[1] The Jacob K. Javits grant program is administered by the U. S. Department of Education. The program provides grants to help build capacity in schools for identifying and meeting the needs of gifted and talented students.
[2] The Autonomous Learner Model is a gifted education model focused on helping students become independent learners and helping them develop the ability to monitor and evaluate their own learning (Betts, 1985).

II. Introduction to the Study: Rationale and Methods

This study examines the disparity in access to and participation in more challenging curriculum by ethnicity in North Carolina's public schools. It differs from previous studies in this area because its focus is on student exposure to more demanding courses of study rather than performance on standardized tests. At the high school level (grades 9-12) enrollment in Advanced Placement (AP) courses, specifically Biology, English, Calculus, and History, and in Honors courses, specifically Biology, English, and History (Calculus generally is not offered as an Honors course) is addressed. At the middle school level (grades 6-8), enrollment in Honors courses or participation in an Advanced and Intellectually Gifted (AIG) program is addressed. At the elementary level (grades K-5), the focus is on enrollment in an AIG program.

The ethnic groups subject to underrepresentation in AP courses, Honors courses, and AIG programs in North Carolina are Black, Hispanic and American Indian students. In what follows, these are the three groups of students who will be referred to as "minorities." While the presence of Hispanic students in North Carolina schools has increased rapidly in recent years, the vast majority of minority students in the state are Black. Indeed, Black students constitute over 30 percent of North Carolina's public school population. Asian American students are not included because they are not subject to underrepresentation in more challenging courses of study relative to their presence in the overall school-age population.

Rationale

The College Board (2000) reports that 1,752 Black students took at least one AP course in North Carolina out of a total of 21,871 AP students, a mere 7 percent. Black students, however, comprise approximately 30 percent of the total school age population. Why does this matter? First, as George and Harrison (2001) observe,

> *High school and college outcomes seem to be strongly related to high school curricula. A special report of Issues on Higher Education (Burdman, 2000) examined data from 21 colleges and reported that students who had taken an advanced placement (AP) course in high school significantly outperformed students who had not taken the AP course but had the college-level prerequisite course.*

Second, Hallinan and Sorenson (1977) contend that achievement test performance is driven, at least in part, by exposure to a curriculum that best prepares students to be successful on such tests. Closing the racial gap in participation in challenging curricula may constitute an important mechanism for closing the ethnic gap on achievement test scores. This idea is supported in part by the number of exceptionally high test scores obtained by AIG students on state tests (Figures 2 & 3).

Additional support is evident from the early results from the Annenberg Challenge Schools in Chicago where a network of 45 schools are "promot[ing] more ambitious intellectual work for all students." The more challenging curricula is associated with improved student performance on the Iowa Test of Basic Skills (Bryk, Nagakoa, & Newmann, 2000). It is

important to note, however, that despite high overall scores, the achievement test score gap that is seen statewide in North Carolina between all students of different ethnic backgrounds is also evident among AIG students.

Figure 2: EOG Reading Performance of AIG Students by Ethnicity 1999-2000 School Year, Grades 3-8

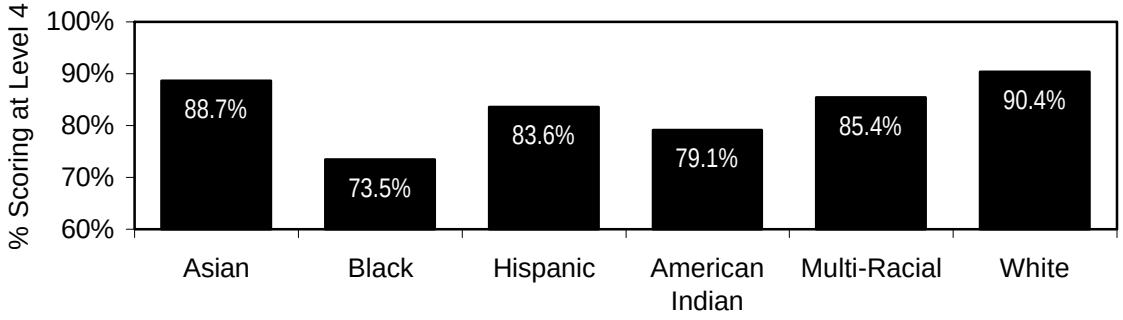
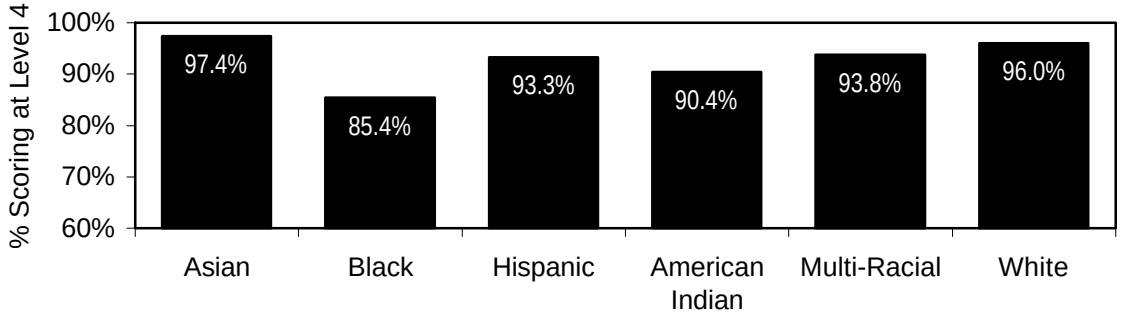


Figure 3: EOG Mathematics Performance of AIG Students by Ethnicity 1999-2000 School Year, Grades 3-8



Third, a low minority presence in more demanding courses of study leaves the impression among both students and parents alike that those courses and programs are exclusively the domain of non-minority students. This can only make it more difficult to encourage minority students to participate in more challenging curriculum opportunities in schools and school districts that make the commitment to change the traditional demography of AP, Honors, and AIG courses and programs.

Methods

To conduct this study two major sources of data were used. First, data collected directly from all of the state's public schools by the North Carolina Department of Public Instruction

(DPI) on an annual basis. Most of the data obtained from DPI pertained to the 1999-2000 academic year. The DPI data are used in the quantitative aspects of the study that provide a general picture of the situation across the state.

Second, with the assistance of DPI staff, two surveys were designed to facilitate the collection of additional information that is unavailable in DPI databases. One survey addressed AIG programs at the elementary and middle school level and the other addressed advanced curriculum offerings at the high school level. Surveys and self-addressed stamped envelopes were mailed to all public schools, including charter schools, in the state. Each survey included a letter from the DPI describing the study and the purpose of the study. It was requested that the surveys be completed by principals, guidance counselors, or other knowledgeable staff (as designated by the school principal).

A total of 1,850 middle and elementary school surveys and 450 high school surveys were mailed out in mid-December. Eight hundred and sixty-six (47%) completed elementary and middle schools surveys and 231 completed high school surveys (52%) were returned to us.

In the high school survey, questions were asked about advanced curriculum offerings (types of courses offered, how many, limits on the numbers of courses that could be offered), screening and placement decisions (criteria used to place students, self-selection into courses, reasons students decline placement) and regular instructional programs. The elementary/middle school survey asked about programs for AIG students (e.g., Honors courses offered, the structure of the school's AIG program, etc.) and about the screening, identification and placement process for those programs.

There are both quantitative and qualitative dimensions to this study. The quantitative dimension, for the most part, tries to identify statewide patterns that might influence minority underrepresentation in more demanding courses. The qualitative dimension involves intensive site visits to a limited number of schools where interviews were conducted with students, parents, teachers, counselors, and principals to isolate the factors "on the ground" that might affect minority access to and participation in more challenging curricula.

A total of 11 schools (6 high schools, 2 middle schools, 3 elementary schools) were selected for these site visits. These schools were chosen from among those schools that returned surveys. High schools were selected based on information gathered from survey data as well as extant state data. Using data from DPI databases, it was established that English, Calculus, History and Biology were the AP courses high schools were most likely to offer (Table 1). Having identified those courses, the minority presence of students in those courses was examined school by school. From those data, three high schools were selected where the minority representation in these courses was equal to or greater than the percent minority in the school, and three other high schools were selected where the minority representation was considerably less than the percent minority in the school. For the selection of elementary and middle schools, the information on the racial composition of AIG programs collected from the school surveys was used. In this case, schools were selected based on the minority representation in AIG programs relative to the minority representation in the schools' overall populations.

The remainder of this report is structured as follows. Section III provides a review of the major theories about potential causes of the ethnic disparity in enrollment in challenging courses and programs. Section IV documents the extent and nature of these disparities in the North Carolina public schools as well as the availability of AP and Honors courses in different types of schools. Section V presents the results of analyses looking at school characteristics that are associated with larger (or smaller) ethnic disparities in enrollment in challenging courses and programs. Sections VI and VII summarize the results of the survey data collected from the schools about the services provided to students in advanced classes and programs. Section VIII reports on the results gleaned from the interviews and observations conducted during the aforementioned case study visits to selected high schools, middle schools and elementary schools. Section IX presents some examples of promising practices from districts and schools around the state. Section X provides a list of recommendations for eliminating ethnic disparities in enrollment in challenging courses and programs based on both the prior research cited in this document as well as the analyses conducted using North Carolina data.

III. Literature Review: What Causes the Enrollment Gap?

What explanations have been offered as causes of the underrepresentation of minority students in more demanding courses of study? In undertaking this study five major hypotheses that are commonly discussed as explanations for the ethnic disparity in academic performance are utilized. These are:

- The "Acting White" Hypothesis,
- The "Selection Mechanism" Hypothesis,
- The Learning Opportunities Hypothesis,
- The Teacher Expectations Hypothesis, and
- The Socioeconomic Status Hypothesis.

These five hypotheses are not necessarily mutually exclusive. The objective is to assess these hypotheses with the intent of identifying a set of interventions that will close the enrollment gap. This section of the report has benefited greatly from reports prepared by researchers with extensive knowledge of the racial/ethnic attainment gap at the elementary (Howells, 2001), middle school (George & Harrison, 2001), and high school (Jackson, 2001) levels.

"Acting White" Hypothesis

The first hypothesis which has major currency is attributed to anthropologists Fordham and Ogbu (1986). It centers on the role of peer effects on Black student performance specifically. Black students are seen as "disidentifying" with school achievement because of the fear of being described as "acting White" by their Black peers. Hence, doing well in school becomes something that only White students are expected to do, and a student's cultural authenticity as a Black person is called in question if it is learned that s/he is striving for high grades. Black youth culture is seen as oppositional toward standard norms of success, and the opposition toward school success is viewed as a critical manifestation.

In a nuanced critique of the Fordham-Ogbu position, Karolyn Tyson's ethnographic research in two all-Black elementary schools in the Southeast shows that the Black third and fourth graders that she studied highly valued school success. The students who were struggling academically admired their higher achieving peers and desired higher achievement for themselves. Only those who felt that high achievement was not in their future were beginning to show clear signs of school disengagement. Another study by Cook and Ludwig (1997) using data from the National Education Longitudinal Study (NELS:88) also demonstrated that there is little discrepancy between Black and White students in the valuation of academic success.

Given Tyson's findings in particular, three major questions must be raised about the "acting White" hypothesis. First, when and why does peer pressure not to achieve among Black students become strong if it is not present in fourth grade? Second, is the "acting White" effect present for Black students as early as fourth grade in schools with a significant presence of non-Black students? Third, does the "acting White" effect, given the general peer pressure among

adolescents that opposes academic achievement, have additional force and pervasiveness for Black students? After all, White students fear being labeled "geeks" or "nerds." James Coleman's (1961) ethnographic study of ten high schools in Illinois predominantly consisting of White students, identified a "social climate" where academic achievement was belittled as curve busting, and the heroes in the schools were the athletes and the cheerleaders. A more recent study of 20,000 teenagers in communities in California and Wisconsin found that adolescent peer culture in general "demeans academic success and scorns students who try to do well in school" (Steinberg 1992, p. 19). Therefore, the issue of whether "acting White" disproportionately affects minority students' decisions to enroll in higher-level courses (and/or their performance on measures that would qualify them for high-level courses and programs) remains unclear at best.

"Selection Mechanism" Hypothesis

Disproportionately low placement of minority students, especially at the elementary and middle school levels, in more challenging curricula may also stem from the procedures used to identify students as gifted or as eligible for high-level courses. Excessive reliance on standardized test scores may narrow the range of students considered for placement, particularly in schools where rigid cut off scores are employed as a means of selection. Some educators (Erb, Gibson, & Aubin, 1995; Reis & Renzulli, 1986) have argued for a more expanded identification process including (1) psychometric information from various sources (e.g., creativity and achievement tests as well as IQ tests, etc.), (2) developmental information from teachers, parents, and the student (via rating scales, personal narratives, and/or teacher recommendations), (3) sociometric information (i.e., peer nominations or peer ratings), and (4) academic performance information such as grades and accomplishments in school and non-school settings (George & Jackson, 2001). Ron Howells' (2001) report on steps taken in Palm Beach County, Florida to increase the presence of minority students in AIG programs also stresses the importance of diversification of instruments used for AIG identification.

As George and Jackson (2001) observe, since 1997 DPI has, through a new set of policy recommendations, encouraged schools "to minimize the role of psychometric information in the identification of students for placement in Academically and Intellectually Gifted (AIG) programs…." (p. 19). Since this initiative is only three years old, the full effects of its implementation are yet to be seen. Schools are still in the process of designing and/or implementing new guidelines for AIG identification. However, George and Jackson also express concern that there already are indications of very wide differences in how "minimized" the role of psychometric information has become across schools. Moreover, they add:

> *Almost everyone we spoke to for this report said that the 1997 guidelines and the reconfiguration of services to gifted students in North Carolina have resulted in more access (and the perception of more access) to gifted programs for minority students. But they also report that traditional practices "die hard." In some schools EOG test scores still provide the definitive cut scores for access. Several principals said their schools still use group IQ tests as part of their AIG formula* (p. 19).

Indeed, George and Jackson (2001) express the concern that "when a school's AIG formula for identification considers a bevy of other developmental, sociometric and performance factors, if test cut scores are used, these scores become definitive and carry too much weight" (p. 19). They also note that, "Middle school teachers [report] that even though EOG test scores often underestimate their minority students' capabilities, they typically carry more weight in the AIG placement decisions than the students' performance or their [the teacher's] recommendations" (p. 19).

Learning Opportunities Hypothesis

This hypothesis is derived from the work of Hallinan and Sorenson on the interaction between opportunities to learn, effort, and ability. They conceive of test score performance as being driven by accumulated skills and knowledge (human capital), and of the acquisition of this human capital as a process. This process involves a mixture of both ability and motivation (psychological capital). They argue that regardless of how capable and hard-working individuals might be, they will not be successful in accumulating human capital without opportunities to learn.

To the extent that opportunities to learn are structured by schooling, then the path of coursework a student takes will sharply influence their human capital accumulation. Knowledge acquired is cumulative. It is not possible to take a Calculus class without having taken algebra beforehand or to take algebra without having had the requisite pre-algebra material. Indeed, with respect to standardized tests, evidence indicates that the more math and the more foreign language a student has taken, the better they will do on the SAT (Eddy, 1981; Morgan, 1989).

This hypothesis would suggest that apart from fear of "acting White", minority students may do worse on standardized tests because they simply have not been exposed to the curriculum that would best prepare them to be successful on the tests. George and Jackson (2001) observe specifically in the North Carolina context that:

> *Some educators argue that the heavy weight of test scores in the identification process assumes that all students have been exposed to similar curricula. But for many, the EOG test does not match the curriculum [taught] and/or the North Carolina Standard Course of Study has not been followed or taught well* (p. 19-20).

Teacher Expectations Hypothesis

The teacher expectations hypothesis places the onus squarely on teacher behavior and practices. Here the argument takes the form of a negative self-fulfilling prophecy. Teachers have beliefs about students' abilities that correlate with ethnicity (Ferguson, 1998). If they believe Black students, for example, are generally less able for biological or sociological reasons, they will expect less of them, push them less, and steer them away from tougher courses. Here one can find potential explanations for the mechanisms that lead these students to "disidentify" with schooling and school achievement, as well as a potential explanation for Black students not taking the courses that will enable them to perform better on standardized tests.

AIG teachers may fear inclusion of more minority students in their program because of negative expectations about their behavior. On the other hand, George and Jackson (2001) even identify instances where teachers "under-nominate" minority students for AIG in schools with pull-out programs because the students are well-behaved and good leaders in the classrooms. The teachers do not want to lose these students and risk disrupting a preferred classroom dynamic. They also observe even more reluctance to nominate students for AIG at the middle school level than at the elementary level. Teachers often wonder why the student was not already identified as AIG eligible in 3rd grade with their peers; they ask why wasn't the "giftedness" noticed before. This might lead teachers to assume that these students may not truly be "AIG material"; otherwise they would have been identified earlier.

Socioeconomic Status Hypothesis

Socioeconomic factors have been shown to have a powerful impact on children and families. In general, youth who live in poverty are more likely to experience socioemotional, behavioral, academic, and health difficulties (McLoyd, 1990; 1998). Moreover, research has shown that economic conditions can influence children both directly through the resources that economic conditions afford, and indirectly by causing parental distress and consequently impaired parenting (e.g., Conger, et al., 1992; Elder, 1974; Gutman & Eccles, 1999; McLoyd, 1990; 1998).

For example, low SES has been associated with lower academic achievement for youth (e.g., Conger, Conger, & Elder, 1997; White, 1982). In a meta-analysis of almost 200 studies, White (1982) reported that income was the "highest single correlate" of traditional measures of SES to be related to academic achievement. However, a much stronger association was found between the home atmosphere and achievement than between achievement and any single or combined measure of socioeconomic status. This pattern suggests that the family environment may mediate the role that socioeconomic factors play in youth achievement. In fact, preliminary research has supported this hypothesis (e.g., Duncan, Brooks-Gunn, & Klebanov, 1994; Lee & Croninger, 1994). For example, researchers examining a national sample of eight grade adolescents reported that family variables, such as literacy resources in the home, discussion of school matters, and maternal educational expectations, reduced the impact of poverty on youth reading achievement by more than half (Lee & Croninger, 1994).

Ron Howells' (2001) report places great emphasis on the higher incidence of poverty and low income among Black families as a major factor that resulted in gross under-identification of Black children in AIG programs in Palm Beach County, Florida. To change conditions requires finding talent among students who may not present their talent in the same ways as students from middle or upper class backgrounds. However, class does not wholly trump race in importance. Although the representation of middle class minority students in AIG programs was higher in Palm Beach County than that of students from poor families, middle class status did not provide insulation from racial underrepresentation. Howells (2001, Addendum, emphases added) writes:

> *While the representation of minority students in gifted programs was very low [in Palm Beach County], minority students from middle class families had a better*

chance of being identified. The vast majority of minority students enrolled in gifted programs came from families of teachers, those in the medical and legal professions and families who owned small businesses. These parents were aware of the existence of gifted programs and took advantage of the opportunity for their children. These families were financially able to have their child's I.Q. assessed by psychologists in private practice which is permitted under Florida law. However, many middle class minority families chose not to pursue having their children tests for gifted placement. Many expressed the feeling that the gifted program was "elitist" and having their child labeled as gifted was not a status symbol as it was for many White families.

A final point which helps to explain the low representation of middle class minority students in gifted programs in instances such as this relates to the previously-discussed issue of teacher expectations. Shade, Kelly and Oberg (1997) conclude that since there is less information available on higher SES minority families there is a tendency for educators and policy makers to draw erroneous generalizations that lead to lowered expectations that justify low teacher expectations for all minority students.

IV. The Enrollment Gap and The Availability of Advanced Curricula

To document the extent of minority underrepresentation in North Carolina's public schools in AP, Honors, and AIG curricula, the presence of minority students in such curricula was compared to their presence in the general student body. The assumption is, in the absence of group-linked inequities, that the proportion of Black, Hispanic and American Indian students represented in AP, Honors, and AIG curricula should match their proportion in the overall student body. If the proportion in these programs and classes is lower, especially if it is markedly lower, that is an indicator of precisely the type of disparity that must be addressed.

The *Disparity Index* is also introduced as a summary statistic to capture the magnitude of this gap. The Disparity Index is defined as the ratio of the percentage of minority students in advanced courses or programs to the percentage of minority students enrolled in the school. For example, if 40 percent of the students at John Doe High School are Black, Hispanic, or American Indian, but only 10 percent of the students enrolled in AP English are from those three ethnic groups, then the Disparity Index for that course would be 0.25 (10 divided by 40), indicating substantial underrepresentation of minority students in AP English in that school.

The lowest possible value of the Disparity Index is zero, a case where there is no minority participation in the advanced course of study in question. Parity is represented by a Disparity Index score of one. Schools with scores greater than one are those where the percentage of minority students in an advanced course of study actually exceeds their percentage in the school (i.e., a case of overrepresentation).

Current Status of the Enrollment Gap

Table 1 provides evidence on the magnitude of the enrollment gap on a statewide basis using DPI data for 1999-2000. The first two columns, percent minority in course and percent minority in school, are the average values in each category for all schools that offer courses or programs of each type. The third column is the statewide Disparity Index score for the category, computed as the entry in the first column divided by the entry in the second column. The rightmost column of the table indicates the total number and percentage of schools that offer a course or program of each type.

Minority students at the high school level are significantly underrepresented statewide in all four types of AP courses included in the analysis. Underrepresentation is not quite as severe in high school Honors courses. However, Honors courses are not subject to the standardization required of AP courses (which are governed by the College Board and involve the option of the student taking a national examination at the end of the course), nor are they generally viewed as possessing the same level of rigor. Still, substantial underrepresentation of minority students occurs in those courses as well.

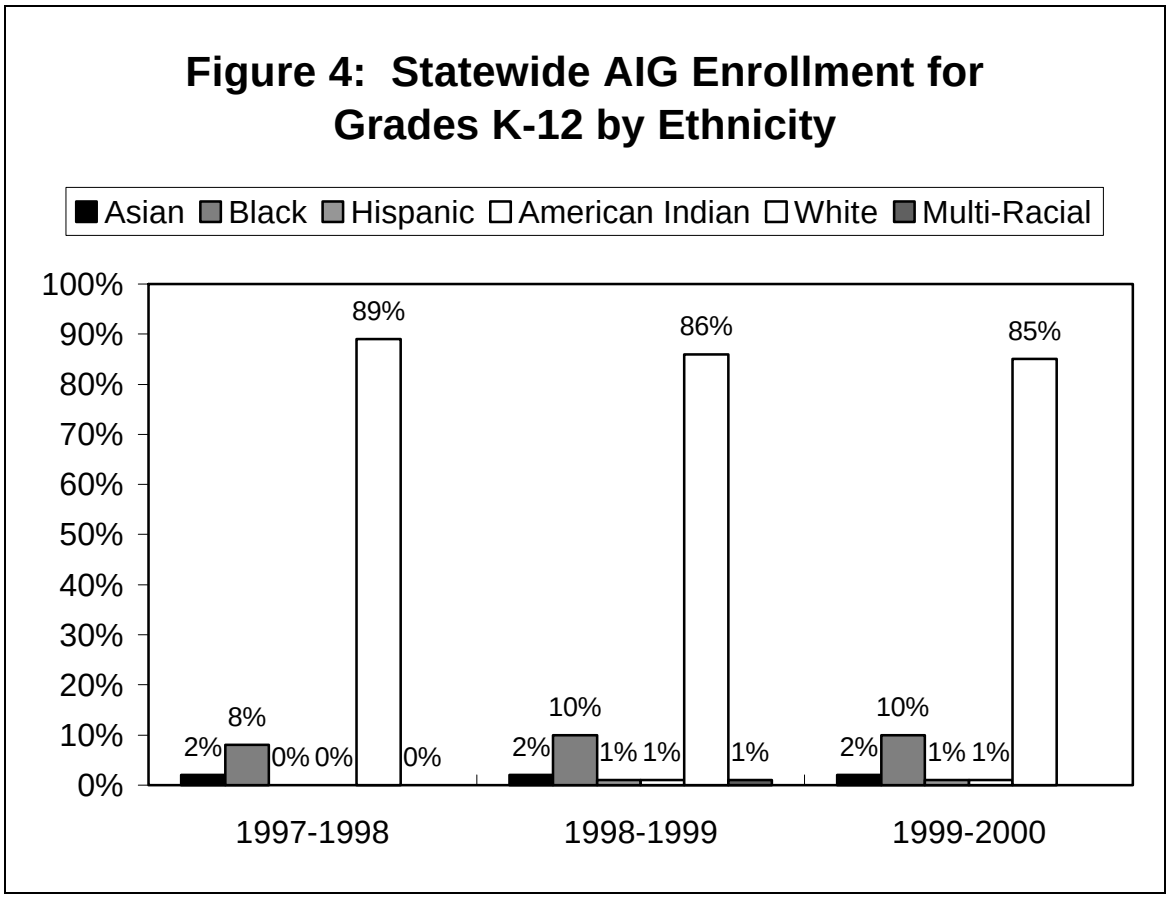
Substantial underrepresentation also is evident in the more challenging curricular offerings in the earlier grades, both middle school and elementary school. At the elementary

school level, minority students are typically AIG-identified at less than half the rate of their presence in the general school population (Table 1 and Figure 4).

Table 1: Minority Presence in Advanced Curricula: 1999-2000 School Year

Grades 9-12 Course	Average Percent Minority Enrolled in Course	Average Percent Minority in School Population	Disparity Index	Number/ Percent of Schools Offering the Course
AP Biology	12.6	31.4	0.40	190 (45%)
AP English	12.3	31.1	0.40	274 (66%)
AP Calculus	11.8	31.4	0.38	275 (66%)
AP History	12.1	30.3	0.40	241 (58%)
Honors Biology	22.1	34.3	0.64	108 (26%)
Honors English	20.6	32.9	0.63	310 (74%)
Honors History	21.2	33.6	0.63	245 (59%)
Grades 6-8 Honors/AIG Classes[a]				
Language Arts	19.5	36.8	0.53	153
Math	19.9	35.7	0.56	103
Grades K-5 AIG Classes[a]				
Language Arts	16.6	38.3	0.43	100
Math	14.6	37.8	0.39	75
Combined Language Arts/Math	17.9	34.7	0.52	89

[a] The data for elementary and middle schools do not include self-contained AIG programs (i.e., programs where AIG students are separated from the other students in the school all day long for instruction). Therefore, these data represent a small subset of the elementary and middle schools in the state.



Note: Some percentages may add up to more or less than 100 due to rounding.

Distribution of Schools Across the Range of Disparity Index Scores

Table 2 is even more revealing about the magnitude of the problem at the high school level. In Table 2, for each course or program, the number of schools falling within 20-point intervals on the Disparity Index is presented. The lowest interval, scores between 0.00 and 0.20, represent the range of schools where minority students have no representation in advanced curricula to schools where their presence in those courses or programs is only one-fifth of their presence in their school's overall student body.

Table 2: Distribution of Disparity Index Scores By Advanced Course or Program

AP Biology (Grades 9-12)

Disparity Index Interval	Number of Schools	Percent of Schools	Cumulative Percent
0.00-0.20	85	44.7%	44.7%
0.21-0.40	44	23.2%	67.9%
0.41-0.60	19	10.0%	77.9%
0.61-0.80	16	8.4%	86.3%
0.81-1.00	10	5.3%	91.6%
> 1.00	16	8.4%	100%
Total	190	100%	

AP English (Grades 9-12)

Disparity Index Interval	Number of Schools	Percent of Schools	Cumulative Percent
0.00-0.20	114	41.6%	41.6%
0.21-0.40	63	23.0%	64.6%
0.41-0.60	44	16.1%	80.7%
0.61-0.80	18	6.6%	87.2%
0.81-1.00	6	5.8%	93.1%
> 1.00	19	6.9%	100.0%
Total	**274**	**100%**	

AP Calculus (Grades 9-12)

Disparity Index Interval	Number of Schools	Percent of Schools	Cumulative Percent
0.00-0.20	136	49.5%	49.5%
0.21-0.40	54	19.6%	69.1%
0.41-0.60	35	12.7%	81.8%
0.61-0.80	20	7.3%	89.1%
0.81-1.00	11	4.0%	93.1%
> 100.0	19	6.9%	100%
Total	**275**	**100%**	

AP History (Grades 9-12)

Disparity Index Interval	Number of Schools	Percent of Schools	Cumulative Percent
0.00-0.20	106	44.0%	44.0%
0.21-0.40	59	24.5%	68.5%
0.41-0.60	37	15.4%	83.8%
0.61-0.80	19	7.9%	91.7%
0.81-1.00	10	4.1%	95.9%
> 1.00	10	4.1%	100%
Total	**241**	**100%**	

Honors Biology (Grades 9-12)

Disparity Index Interval	Number of Schools	Percent of Schools	Cumulative Percent
0.00-0.20	20	18.5%	18.5%
0.21-0.40	17	15.7%	34.3%
0.41-0.60	24	22.2%	56.5%
0.61-0.80	16	14.8%	71.3%
0.81-1.00	8	7.4%	78.7%
> 1.00	23	21.3%	100%
Total	**108**	**100%**	

Honors English (Grades 9-12)

Disparity Index Interval	Number of Schools	Percent of Schools	Cumulative Percent
0.00-0.20	42	13.5%	13.5%
0.21-0.40	67	21.6%	35.2%
0.41-0.60	79	25.5%	60.6%
0.61-0.80	57	18.4%	79.0%
0.81-1.00	46	14.8%	93.9%
> 1.00	19	6.1%	100%
Total	**310**	**100%**	

Honors History (Grades 9-12)

Disparity Index Interval	Number of Schools	Percent of Schools	Cumulative Percent
0.00-0.20	24	9.8%	9.8%
0.21-0.40	52	21.2%	31.0%
0.41-0.60	74	30.2%	61.2%
0.61-0.80	57	23.3%	84.5%
0.81-1.00	28	11.4%	95.9%
> 1.00	10	4.1%	100%
Total	**245**	**100%**	

For all four AP courses examined, more than 40 percent of the schools in the state offering the courses fall into this lowest category; for AP Calculus, half of the high schools in the state offering the course are in this category of extreme underrepresentation. Less than 15 percent of the schools offering AP courses have minority enrollments at or above 80 percent of minority students' presence in the school population. For AP History it is less than 10 percent of the state's high schools. While matters look better for Honors courses at the high school level, more than one-third of the schools offering Honors courses still have Disparity Index scores of 0.40 or less. These are schools where minority students enroll in Honors courses at a rate less than half their presence in the general student body.

Frequently, the absence of minority students in advanced curricula is pervasive across a district. A few examples illustrate this phenomenon:

- One mountain school district has four elementary schools and middle schools, each with comparatively low minority enrollment (the minority presence in the four schools' student bodies ranges from slightly less than 1 percent to close to 6 percent). But in none of the four schools was a single minority child AIG identified at either the elementary or middle school level.

- On the other hand, one large urban district has 36 elementary schools, typically with a 30-40 percent minority enrollment. In only four of the schools are minority children AIG identified in proportions consistent with their presence in the school. Eleven of the schools fall in the 0.00 to 0.20 Disparity Index range. More than half score below 0.40 on the Disparity Index.

- One western suburban county has 12 elementary schools. In seven of them, each with a 20-30 percent minority enrollment, not one minority child was AIG-identified in 1999-2000.

In light of these data, one might contend that very low minority representation in advanced curricula in a particular school may be a function of very low minority presence in that school. In other words, schools that have few or no minority students in advanced curricula may also be schools where there are very few minority students in attendance. There does appear to

be some relationship in this respect, but only in a few courses and the relationship typically is very small in magnitude (see Section VI and Appendix A for details on these results). Therefore, in most cases, this is an unlikely explanation for low Disparity Index scores.

In-Field Licensing of High School AP Teachers

At the secondary level, one indicator of the quality of AP offerings and student access to that quality is indicated by the proportion of teachers who are engaged in instruction in fields in which they are licensed. If certain types of schools have more out-of-field teachers assigned to AP courses, that may have implications for the relative quality of instruction that the AP students in those schools receive. Utilizing the state's DPI data base, it was determined that during the 1999-2000 school year, over 80 percent of the state's high schools had all of their AP courses taught by teachers who are licensed in the field that is the subject matter of the course. However, there are some geographic and demographic differences in how these schools are distributed.

Geographic Differences. **There is significant regional variation within the state in the distribution of in-field AP teachers.** Rural schools actually have the highest percentage of schools with all AP courses taught by faculty in their field, with the percentages for suburban and urban schools being somewhat lower (Table 3). On the other hand, urban and suburban schools tend to offer more different types of AP courses than rural schools (Table 5), which may contribute to greater difficulty in staffing all of those classes with in-field teachers.

Table 3. High Schools with AP Teachers In and Out of Field By Region

	All AP Teachers Teaching In-Field	At Least 1 AP Teacher Teaching Out-of-Field	Total
Urban	52 (68.4%)	24 (31.6%)	76 (100.0%)
Suburban	50 (74.6%)	17 (25.4%)	67 (100.0%)
Rural	141 (88.7%)	18 (11.3%)	159 (100.0%)
Total	**243 (80.5%)**	59 (19.5%)	**302 (100.0%)**

Student Characteristics. While there is no significant difference between the socioeconomic status of student populations (based upon the proportion of students receiving free or reduced price lunches) of schools with all AP teachers in field and those with at least one out of field, there is a significant difference associated with the percentage of minority students in the school. Schools with all AP courses taught by in-field teachers are, on average, 30 percent minority, while schools with at least one AP course taught by a teacher out-of-field have an average of 36.5 percent minority presence. This difference, however, may be confounded with geography. Urban schools have the highest mean minority presence of the three categories of schools (40 percent versus 23 percent in suburban schools and 32 percent in rural schools), but the lowest percentage of schools with all AP teachers in a field in which they are licensed. **Therefore, urban schools and schools with higher concentrations of minority students are somewhat less likely to have all of their AP courses staffed by in-field teachers.**

High School AP Course Offerings

Another school-based indicator of the quality of and access to advanced curricula is the number of different AP courses that are available to students in each school. If certain types of schools offer fewer AP courses, then the students in those schools will not have access to the same opportunities to learn as other students, all other things being equal.

Among high schools offering AP courses, the mean number of unique AP courses offered in North Carolina high schools is 5.55. In addition, there are a relatively small number of schools offering ten or more unique courses (Table 4). Half of the high schools in the state that offer AP courses offer four or fewer unique courses.

Table 4. Total Number of AP Courses Offered Per High School

Number of Courses Offered	Number of Schools	Percent of Schools
1	16	5.2%
2	28	9.1%
3	45	14.7%
4	66	21.5%
5	38	12.4%
6	33	10.7%
7	19	6.2%
8	13	4.2%
9	8	2.6%
10	7	2.3%
11	8	2.6%
12	9	2.9%
13	2	0.7%
14	2	0.7%
15	5	1.6%
16	3	1.0%
17	3	1.0%
18	2	.7%
Total	**307**	**100%**

Twenty-nine percent (87 schools out of 301 that offered AP courses during 1999-2000) of the state's high schools offer one to three unique AP courses, 63 percent (188 schools out of 301) offer 4-5 AP courses, and the remaining 37 percent (113 schools out of 301) offer 6 or more. As was true for AP teacher qualifications, the number of AP course offerings also varies according to geographic and demographic characteristics of schools.

Geographic Differences. As shown in Table 5, **suburban and urban schools tend to offer more AP courses than schools in rural areas.** Urban high schools that offer AP courses offer, on average, more than twice as many different courses as rural high schools. Variation in the diversity of unique AP offerings by location of high school is described in more detail in Table 6. These data reinforce the finding that urban schools offer the greatest array of AP courses, and rural schools offer the fewest. For the 14 AP courses in Table 6, the proportion of urban schools offering the course significantly exceeds suburban and rural schools in all instances except Calculus, Statistics, and Government. With respect to AP Calculus, a slightly higher proportion of suburban schools (96 percent) offer the class than urban schools (93 percent); with respect to AP Statistics and AP Government, the proportions of urban and suburban schools offering the course are similar. AP English, Calculus, and History are offered by almost every urban high school that offers AP courses.

Table 5. Average Number of AP Courses Offered By Geographic Region

	Number of Schools	Mean Number of AP Courses Offered
Urban	76	8.48
Suburban	67	6.12
Rural	159	3.90

Table 6. Frequency of Specific Types of AP Courses By Geographic Region

	Percent of Schools Offering the Course			
Type of AP Course	**Urban**	**Suburban**	**Rural**	**Total**
English	98.7%	94.0%	84.9%	91.7%
Calculus	93.4%	95.5%	86.2%	91.4%
History	94.7%	86.6%	67.9%	80.5%
Biology	75.0%	71.6%	54.1%	63.6%
Chemistry	63.2%	49.3%	27.0%	41.7%
Physics	56.6%	28.4%	13.8%	28.1%
Foreign Language	57.9%	26.9%	10.1%	25.8%
Statistics	38.2%	37.3%	12.6%	24.8%
Art/Art History	43.4%	25.4%	9.4%	21.9%
Government	23.7%	23.9%	7.5%	15.6%
Environmental Science	39.5%	16.4%	2.5%	15.2%
Computer Science	31.6%	10.4%	3.1%	11.9%
Psychology	26.3%	7.5%	4.4%	11.3%
Music	23.7%	11.9%	2.5%	9.9%
Economics	3.9%	1.5%	1.3%	2.0%
Total Number of Schools	**76**	**67**	**159**	**302**

School Characteristics. Other school characteristics also vary significantly among schools with different number of AP offerings. For example:

- **Schools offering more unique AP courses tend to be larger.** Mean enrollment in schools offering 6 or more courses is one and one-half times as high as mean enrollment in schools offering 4-5 courses and twice as high as high schools offering 1-3 courses. (1326 students versus 924 and 682 students, respectively).

- **Schools offering more unique AP courses tend to have a more affluent student body.** On average 31 percent of the students in schools offering 1-3 AP courses received free or reduced fee lunches, while 28 percent of the students in schools offering 4-5 AP courses received free or reduced fee lunches. In contrast, 22 percent of the students in schools offering 6 or more AP courses received free or reduced fee lunches.

- **Schools offering more unique AP courses tend to have slightly higher ABCs performance composite scores.** Schools offering 1-3 courses have a mean score of 59, schools offering 4-5 courses have a mean score of 61, and schools offering 6 or more courses have a mean score of 63.

- **Schools offering more unique AP courses actually have a slightly higher minority presence than schools offering fewer courses.** Thirty-one percent of the students at schools offering 1-3 AP courses are minority while 30 percent are minority at schools offering 4-5 courses. Thirty-four percent of students at schools offering 6 or more AP courses are minority.

The implications of these relationships for the representation of minority students in AP courses might be summarized in the following manner. The minority presence is greatest in urban schools. Urban high schools are larger, and these high schools tend to offer a greater variety of AP courses. Therefore, minority students are generally more likely to be in schools offering a wider range of AP classes, which means that their underrepresentation in AP classes generally cannot be attributed to the lack of class offerings in the schools they typically attend. In addition, these also are the same schools that are most likely to have out-of-field teachers teaching at least one AP class, which brings into question the quality of instruction to which those students are exposed even when they do enroll in those courses.

V. Factors Predicting the Enrollment Gap

In addition to the examination of access to high-level courses reported in the previous section, another important question can be asked that may shed light on the nature of the enrollment gap:

> Regardless of the richness or quality of the advanced curricula offered in a particular school, what factors might influence the magnitude of minority underrepresentation in those more challenging curriculum offerings?

The investigation into this question has proceeded at two levels: a quantitative inquiry focused on school level characteristics and a qualitative inquiry involving school visits and interviews with students, teachers, administrators and parents. This section reports on the quantitative portion of this investigation.

The following analyses explore the extent to which certain school-level factors are associated with lower (i.e., worse) or higher (i.e., better) Disparity Index scores. The factors considered are the following: (1) the school's ABCs performance composite, (2) the percent of the student body receiving free or reduced price lunches, (3) the size of the student body (i.e., average daily membership), and (4) the percentage of enrolled students who are ethnic minorities.

The rationale for inclusion of each of these variables in the statistical analysis is the following:

- The ABCs performance composite is included because high-performing schools might be expected to engender high performance from all of their students, regardless of ethnicity.
- The percent of students receiving free or reduced price lunch is included to capture the socioeconomic status of the student body. While this is a very rough measure of the extent of poverty in a student population, it is the best measure available in state-level data. An elementary school with a more impoverished student body may tend to identify fewer students as AIG eligible because of SES-linked skills that may lead to AIG identification. A high school may have fewer students taking AP or Honors courses because of time demands associated with the need to work outside of school or because lower income students are less likely to have had the earlier courses in middle school that would have prepared them for AP courses in high school.
- Average daily membership is included to allow us to determine whether smaller or larger schools do a better job in including minority students in advanced curricula.
- The percentage of minority students in the school is included to enable us to address whether schools with higher (better) Disparity Index scores simply tend to be schools with more minority students; therefore, if an advanced curriculum is offered, one might hypothesize that minority students might be better represented in those schools simply by chance.

Regression analyses were utilized to assess the relationship between each of these four variables and the Disparity Index based on data from the 1999-2000 school year (detailed statistical results are reported in Appendix A).

High School Analyses

Underrepresentation and Minority Concentration. The results for AP and Honors courses are not especially revealing, but there are a few interesting findings. For AP Biology, AP English and Honors History, there is no relationship between the percentage of minority students in the school and minority presence in AP courses. For AP History, however, the greater the minority presence in the school the greater the minority presence in the course. But for AP Calculus and Honors Biology, the relationship is reversed: minority students are more likely to be better represented in those courses in schools where minorities are less well represented in the general student body.

Underrepresentation and ABCs Results. The only other variable that bears a statistically significant relationship with the Disparity Index is the ABCs performance composite score. Disturbingly, the overall school performance composite score is inversely related to the Disparity Index for three of the four AP courses and all three of the Honors courses at the high school level. **Thus, for AP Calculus, AP English, AP History, Honors Biology, Honors English, and Honors History, the better the high school's overall performance composite, the greater the likelihood minority students were underrepresented in these classes.** These results lead to a critical question: Are some high schools not enrolling minority students in advanced courses out of fear that ABCs performance composites will be lowered? The new ABCs prediction model for determining growth and incentive awards for high schools, however, may help to remove this potential barrier, because it is based on the progress made by individual students.

Underrepresentation and Geographic Location. The same regressions were also performed for each of the four AP courses controlling for geographic location with no substantive change in the findings. It was discovered through these analyses (but only for AP History) that urban and suburban schools tended to have superior Disparity Index scores relative to rural schools. The same regressions were also performed with a reduced sample to insure that the results were not attributable to any effects unduly produced by schools with very small AP or Honors programs. When the sample was limited to high schools with at least 10 students in each of the four AP classes and each of the three Honors classes, there were again no substantive changes in the results. The resulting sample sizes in most of these cases, however, were exceedingly small.

Elementary and Middle School Analyses

Underrepresentation and Minority Concentration. At the middle school level, the only one of the four variables systematically related to the percentage of minority students enrolled in AIG/Honors Language Arts and AIG/Honors Mathematics was the percent of students who are minority in the school. As was found for high school AP History, a larger percentage of

minority students in the school is associated with more minority students enrolled in both of these areas. The same result was found for the elementary AIG curricula as well.

Underrepresentation and ABCs Results. For elementary and middle schools, there is no relationship evident between the school's ABCs performance composite score and the participation of minority students in this particular advanced curriculum. This finding differs from the negative association that was detected at the high school level.

Summary

These analyses are only suggestive but begin to lead toward issues and directions to query. The results suggest that high-minority elementary and middle schools are more likely to include minority students in AIG/advanced courses at a higher rate.

The high school results are mixed, including some discouraging findings on the relationship between enrollment in advanced courses and the ABCs performance composite, and the finding of an inverse relationship for selected advanced courses between the percent minority school enrollment and percent minority participation in the advanced course. Clearly, a lot of work needs to be done to raise awareness of school personnel, to encourage students to pursue advanced coursework, and to prepare more minority students at earlier ages for advanced curricula.

VI. Elementary and Middle School AIG Survey Results

Results reported here are from a total of 866 elementary and middle school AIG surveys returned as of February 9, 2001. These 866 survey responses represent 47% of the total number of surveys distributed (Table 9). The elementary/middle school survey asked about programs for AIG students (Honors courses offered, the structure of the school's AIG program, etc.) and about the screening, identification and placement process for those programs.

Table 9. Elementary and Middle Schools Returning Surveys

School Grade Configuration	Number of Schools
Elementary Schools (highest grade level <= 6)	565
Middle Schools (lowest grade level >= 6)	224
Combination (lowest grade < 5 and highest grade >6)	71
Total[a]	**860**

[a] School grade span information was not available for 6 schools.

Programs for Students Identified as Academically or Intellectually Gifted (AIG)

Honors Courses. As shown in Table 9, two hundred and ninety-five schools contained middle school grade levels. Forty-five percent of schools with middle grades reported offering Honors courses. Because the terminology used to classify advanced courses differ across middle schools (e.g., accelerated, Honors, AP, etc.) and because the survey asked only about "Honors" courses, this figure may underestimate the number of middle schools in the sample offering advanced courses. However, "Honors" is the most commonly used term. Two-thirds of these schools reported offering 1 or 2 Honors courses, which is largely consistent with the results generated from DPI databases in Table 7. Math courses, especially Algebra, were the most commonly offered courses. Language Arts was the only other class offered by a significant number of middle schools (55). Almost all schools offering Honors courses do so at the 8^{th} grade (97%); although many also offer Honors courses in the 6^{th} (62%) and 7^{th} (76%) grades.

AIG Program Structures. Schools are most likely to structure AIG programs using a resource room (51%) and/or a heterogeneously-grouped classroom (49%). A significant number of schools reported using other methods of organizing AIG programs, including some form of clustering and or enrichment. These responses seem to reflect a trend toward multiple levels or types of services.

AIG Screening. Across schools, the most commonly used screening instrument is End of Grade tests, followed by the Test of Cognitive Skills and the Cognitive Abilities Test (Table 10). Teacher's impressions of students are also an important part of the identification process; some form of teacher-completed checklist was among the top screening instruments cited.

Many schools reported using multiple instruments to screen students for AIG identification. The data indicate that there is a statistically significant positive relationship between the number of instruments used to screen for AIG identification and the number of students overall enrolled in a school's AIG program, but only at the elementary level - the more instruments used, the more AIG students enrolled. This relationship does not hold for middle schools. Interestingly, the number of **minority** students enrolled in AIG does **not** increase with the number of instruments used for screening in middle schools.

Table 10. Instruments used for the Screening Process

Instrument	Number of Schools	Percent of Schools
End of Grade Test	440	51%
Test of Cognitive Skills (TCS)	219	25%
Cognitive Abilities Test (CogAT)	208	24%
Teacher Checklist	142	16%
Otis Lennon (OLSAT)	103	12%

AIG Identification and Placement. In addition to a variety of assessment data, many schools also reported using other non-assessment criteria for AIG identification. The most common of these were teacher recommendation, grades and student self-selection (including parent request). Of the schools using grades as a criterion for identification and placement, 55 percent require A's and B's, and 36 percent require A's. Ninety-one percent of the schools using EOG scores use the percentile score rather than the scale score. Other criteria reportedly used included student motivation and interest (6%), and student interest inventories (3%).

Table 12. Criteria Used for Identification and Placement

Criteria	Number of Schools	Percent of Schools
Teacher recommendation	775	90%
EOG test scores	770	90%
Cognitive/intelligence test	740	86%
Grades	703	81%
Self-selection (including parent request)	573	66%
Student Work portfolio	540	62%
Standardized achievement test	457	53%
Outside or independent assessment/evaluation (by parent request)	391	45%
Other assessment procedures	309	36%
Domain or skill-specific aptitude tests	113	13%

VII. High School Advanced Curricula Survey Results

A survey was sent to 450 high schools in mid-December, and 231 (52%) were returned. This survey asked questions related to advanced curriculum offerings (types of courses offered, how many, limits on courses), screening and placement decisions (criteria used to place students, self-selection into courses, reasons students decline placement) and the structure of regular instructional programs. Although course offerings are addressed for the state in Section IV, these results refer specifically to high schools that returned surveys. The results are very similar, providing more confidence that other survey results may be fairly representative of the state as a whole.

High School Advanced Course Offerings

The vast majority of high schools offered Honors, Advanced Placement (AP), and Dual enrollment in college courses (Table 13). Honors courses were the most common courses offered (90% of schools), while 85 percent of schools offered AP courses and 82 percent of schools offered Dual enrollment courses. On the other hand, only 3 percent of schools offered International Baccalaureate (IB) courses.

Table 13: Advanced Courses Offered at 231 Surveyed High Schools

Advanced Courses Offered	Number of Schools Offering	Percent of Schools Offering
Honors	207	90
Advanced Placement	197	85
Dual Enrollment	189	82
International Baccalaureate	7	3

Of the 197 high schools offering AP courses, 194 reported on the number of different AP courses currently offered, not counting multiple sections of the same course (see Table 14). An average of about 7 courses were offered per school, although the number ranged from 0 to 28 courses per school (3 schools reported that they generally offered AP courses, but were not currently doing so). The most common AP courses offered were English, History and Calculus.

Table 14: Most Common AP Courses Offered at 231 Surveyed High Schools

Course Type	Schools Offering One Course in Subject Area	Schools Offering Two Courses in Subject Area
Calculus	147 (75%)	22 (11%)
Biology	134 (68%)	0
English	100 (51%)	72 (37%)
History	99 (50%)	58 (29%)
Chemistry	89 (45%)	0
Physics	53 (27%)	3 (2%)
Language	15 (8%)	29 (15%)

Limits on Courses Offered. Fifty-four schools (23%) reported that there were limits on the type of Honors courses they could offer, while 76 schools faced limits on AP courses (33%) and 74 schools faced limits on Dual Enrollment courses (32%). Of the 108 schools reporting limitations on the advanced courses they could offer, schools reported a wide variety of reasons. The most common were class/school size (12%); number of students or availability of teachers/class periods (11%); or limited resources (9%).

Fifty-two percent of the 108 schools reporting these limitations employed plans or strategies for dealing with these limits. These schools reported using 39 different strategies, with the most common being training teachers (9%), requesting additional teaching positions (7%), and increasing dual enrollment or needs assessments (7%).

Identification, and Placement Decisions for Advanced Curricula

Criteria for Identification and Placement. Reporting schools used a variety of criteria for identifying and placing students in advanced courses (Table 15). The most common criteria were self-selection and teacher recommendation, followed by grades. (Note that these are not mutually exclusive categories - some reported using more than one criterion). Test scores were only used in 36 percent of schools as criteria for identification and placement. Of the 150 schools that reported grades as a criterion, 32 percent made no specification as to the types of grades required, while 28 percent required As and Bs, 17 percent required Bs, and 7 percent required As. Of the 55 schools that reported on the type of test used, 31 percent used EOCs, 24 percent used EOGs, and 13 percent used the PSAT. Many schools reported using a combination of tests.

Self-Selection and Available Supports. Eighty-four percent of schools indicated that self-selection was a criteria for placement into at least one type of advanced course (Table 15). **A majority of schools (57%) reported that students were able to self-select into Honors courses without having met any of the previously identified criteria, with slightly lower percentages for AP courses (48%) and Dual Enrollment courses (42%). Of the schools that allowed students to self-select into at least one type of advanced course without meeting any**

other criteria, 85% reported having some type of support system in place to promote the success of these students. A majority of schools reported some combination of mentoring, tutoring, and related supports (57%), while an additional 25 percent simply reported other types of supports.

Relative Importance of Criteria. Fifty-one percent of the schools reported that the criteria they used for identification and placement carried equal weight in the identification and placement process. Of the 86 schools reporting that the criteria did not carry equal weight (28 schools gave no response), the single criterion carrying the most weight was typically self-selection (34%) or teacher recommendation (15%).

Table 15: Criteria Used by High Schools for Identification and Placement in Advanced Courses

Criteria	Number of Schools	Percent of Schools
Self-Selection	193	84%
Teacher Recommendation	185	80%
Grades	150	65%
Test Scores	84	36%
Other	50	22%
Total number of schools responding	**231**	

Support for Underqualified Students. Only 18 percent of schools reported that they had special programs to prepare and support students who otherwise would not be placed in advanced courses. These 42 schools reported a wide range of programs, including AVID (n=9; see Section IX for a description), advisor/counselor programs (n=4), and tutoring/study sessions (n=3). One school even reported a support group for African-American males.

Students Declining Placement. **Although a majority of high schools report that eligible students occasionally decline placement in Honors (88%) courses, very few report that this happens "often" (5%). Declining placement appears to be more common in AP courses, with 25 percent of schools reporting that it happens "often" or "very often".** In addition, 14 percent of schools report that high school students who have previously been in AIG programs decline placement in advanced courses often or very often. This finding is particularly troubling, since most AIG-identified students would be expected to enroll in advanced courses in high school. Students who are unwilling to work hard appears to be the greatest challenge that schools are facing in terms of getting eligible students to enroll in advanced courses, with various scheduling conflicts also commonly cited (Table 16). When asked about the "type" of students who most often declines placement in advanced courses, a majority of schools (54%) report that there is no general type of student who declines placement.

Table 16. Reasons Students Decline Placement in Advanced Courses

Reason	Percent of Schools Reporting that this occurs "Somewhat" or "Very" Frequently
Student does not want to work hard	77%
Conflicts with other courses	66%
Conflicts with extracurricular activities	59%
Conflicts with outside employment	56%

VIII. Case Studies

For the qualitative aspect of the study a total of 11 schools (6 high schools, 2 middle schools, 3 elementary schools) were selected for a closer analysis of the issues involved in student placement in advanced courses and curricula. Case study schools were chosen from the sample of schools returning surveys. The percentage of minority students enrolled in each school and related advanced courses are provided in Table 17.

Table 17: Characteristics of Case Study Schools

School	% Minority Schoolwide	% Minority AIG Program	% Minority AP Calculus	% Minority AP Biology	% Minority AP English	% Minority AP History	% Minority Honors Biology	% Minority Honors English	% Minority Honors History
High School A	91%		68%	73%	68%	70%		87%	90%
High School B	15%			25%	22%			3%	0%
High School C	61%		17%	15%	0%			28%	31%
High School D	40%		0%	0%	9%	6%		6%	12%
High School E	69%		75%		50%	38%		57%	50%
High School F	28%		40%		8%	5%	24%	14%	12%
Middle School J	51%	9%							
Middle School K	13%	11%							
Elem. School G	89%	44%							
Elem. School H	74%	0%							
Elem. School I	38%	29%							

Note. Blank cells indicate that the course/program is not offered at that school.

Identification of Schools. High schools were selected based on information gathered from both survey data and extant state data. From those data, schools with minority representation in either AP Calculus or AP Biology equal to or greater than the percent minority in the school were selected. Some schools where the minority representation was considerably less than the percent minority in the school were also selected. In each case, schools were selected at the extremes on these indicators. For the selection of elementary and middle schools, information on racial composition of AIG programs collected from the school surveys were used. Here, too, schools at the extremes were selected based on representation of minority students in the AIG program relative to their presence in the school. Once all 11 schools were identified, officials from DPI contacted each school's central office to request permission to visit each

school. If consent was given, someone from that office subsequently contacted the school to notify them of the visit from the case study team.

Data Collection. Case studies entailed one-day visits to each school for individual interviews with students, teachers, principals, and counselors. Team members also collected any available documents on selected programs (e.g., AIG, STAR, etc.), student handbooks, and course selection guides for additional analyses. Prior to the visits, the teams also requested that school personnel select a mix of sixteen students based on ethnic background and placement (e.g., AIG and non-AIG, AP and non-AP) for interviews. The degree to which this number and mixture were obtained varied by school. A total of 125 students were interviewed. Information on the number, race, gender, and instructional placement of the students interviewed at each school is provided in Table 18. In the remainder of this section of the report, findings from the on-site interviews are discussed in the context of each of the five hypotheses discussed in Section II that have been advanced to explain the racial/ethnic achievement gap.

Table 18. Characteristics of Interviewed Students

School	Total	Ethnicity					Gender		Placement[a]
		Black	White	Hispanic	Am Indian	Asian	F	M	
High School A	10	9	0	0	0	1	5	5	2 IB, 5 AP, 2 H
High School B	14	4	9	0	0	1	9	5	3 AP, 6 H, 2 CP
High School C	13	8	4	0	0	1	8	5	6 AP, 6 H
High School D	6	2	4	0	0	0	4	2	4 AP, 2 H
High School E	3	1	2	0	0	0	3	0	1 AP
High School F	14	6	5	2	1	0	8	6	9 AP, 2 H
Elem. School G	15	5	10	0	0	0	5	10	11 AIG
Elem. School H	16	9	7	0	0	0	9	7	8 AIG
Elem. School I	10	3	3	3	0	1	5	5	7 AIG
Middle School J	15	8	4	1	0	2	10	5	5 AIG, 4 H
Middle School K	9	1	8	0	0	0	4	5	1 AIG, 4 H
Total	**125**	**56**	**56**	**6**	**1**	**6**	**70**	**55**	

[a] - IB = student enrolled in International Baccalaureate program
AP = student enrolled in Advanced Placement course(s)
H = student enrolled in Honors course(s)
AIG = student enrolled in Academically/Intellectually Gifted program
CP = student enrolled in College Prep course of study
Students enrolled in regular instruction account for the remainder of the placement totals.

Acting White

The "acting White" thesis is currently one of the more popular scholarly explanations for Black students' academic underachievement; yet, with a few exceptions, interviewed students

failed to identify this as a problem. School personnel, however, occasionally offered some variation of the theory to explain the underrepresentation of minority students in advanced curricula. Only at one school, High School D, did the perceptions/explanations of school personnel match the reported experiences of students on this matter. Upon closer examination, though, it appears that underneath the issue of "acting White" and other such ridicule that some Black students encounter lie two major issues: (1) Black students often experience racial isolation in advanced courses and programs, and (2) high-achieving students are often perceived as "stuck up" or thinking they are better than others. These were recurring themes across the interviews, but the second issue, which will be described shortly, crosses racial lines.

In interviews with teachers, principals, and counselors at High School D, a school which had virtually no minority representation in advanced courses (Table 17), interviewees made statements that reflected the notion of "acting White". These statements centered around the following beliefs: that it is not "cool" for minority students to be smart; that minority students lack self-confidence and are afraid of being "the only one" and isolated from friends; that Blacks -males in particular - are "averse to success" because success would be "betraying their brothers;" that Black students "don't place a high value on education;" that Black students are "embarrassed" about their ability, etc. This was the only school at which this theme was so pervasive. In fact, just recently, an assistant principal helped to start a club for high-achieving Black students in an attempt to address the problems these students encounter. According to one counselor, though, whose own daughter attended the school, the problem of racial isolation among Black students in advanced courses at this school is a long-standing one.

> *When [my daughter] was in high school I had a concern that she was the only Black on the principal's list, which is like the honor roll, and oftentimes she was the only Black in the core courses. And I went to the principal at that time and she asked me to do a survey of the minority students as a whole. And some of the concerns that the students had was that they did not like being in Honors courses because oftentimes they were the only ones, and with all of this emphasis on team effort in the classroom learning, oftentimes, you know, you had student teams do activities and you had to work in groups, and sometimes have to get together after school, and oftentimes they felt that they were just sort of the odd person out, and they've felt left out and in some cases they said they felt that the teachers did not make a lot of effort to incorporate them in the class. …Also some of the kids felt that if they were in these Honors classes, that there appears, the Black kids, look at them as if they were acting White, not recognizing that you could be smart and Black. And they had a real feeling about that. A lot of White kids looked at them, "basically you're not supposed to be smart and Black, so why are you here?" So it was like you were outcast—in a negative light.*

Only two Black students were interviewed at High School D, and their comments echoed those of the counselor. Both students reported that they were "the only one" or one of two Black students in their advanced classes. One student said that she was not friends with most of the other students in her Honors and AP classes, whom she described as "rich White students" who were "snotty." The other Black student, Alisha[3], vividly recalled painful experiences of being

[3] All names used in this section are pseudonyms.

called “White girl” and “Oreo” by a few fellow Black students in middle school when she alone placed into accelerated classes as well as being told she was “not Black” by White students in high school.

> *I think when you walk by a door and see one or two spots (black faces) in a class, I think that’s when you start perceiving “Oh, they must be stuck up, rich preppy people.”… A White girl said, “[Alisha] you’re not Black, you speak correct English, you take Honors courses. You’re not what I picture as Black.”…I’ve changed so much since 9th grade. I came in here timid because I am Black and I was the only Black person in my Honors classes. I’ve had to deal with things from other Black students, Black students who see that I am smart they seem to think that I think I’m better than them. Because I carry myself in the manner that I do, I was called” White girl”, “Oreo.” That bothered me for a while but now I don’t pay attention to it. This was sixth through ninth grade that I was going through this. I know they were saying that out of ignorance and now those same people are asking me for help. I hear it all the time, “I wish I hadn’t played around.”*

At another school with low minority representation (Middle School J, which is over 50 percent minority) more comments on isolation were heard from Black students. One Black AIG-identified student told us that there were no other minority students in her AIG class and that she was friends with only a few people in the class. She identified a group of students in the AIG class, “preps,” whom she did not like. She described these students as “rich,” “White,” and all “living in the same neighborhood.” Other students who discussed the issue of “acting White” insisted that it had nothing to do with academic placement. A Black male AIG-identified student at one middle school (who requested on his own to be retested for AIG) acknowledged a certain amount of taunting from other Black students, but was quick to add that the taunting was not related to his being in AIG (incidentally, this student has earned classroom grades of C and D). He explained that Black students made fun of fellow Black students who engaged in activities that were considered White, like skateboarding, surfing, or using language like “dude.”

With the exception of High School D, the issue of acting White and racial isolation in advanced classes did not come up at the high schools visited, either because the school was predominantly minority or because the interviewed students did not encounter any problems in this area. For example, at High School A, which is over 90 percent minority, significant numbers of minority students are enrolled in advanced courses (although here, too, they were underrepresented relative to their enrollment in the school). Nothing was heard about “acting White” from the students with whom team members spoke. Nor did school personnel identify this as a problem. At High School A, both students and teachers said that students taking the advanced courses were perceived positively by their peers. One AP/IB teacher interviewed at High School A said that her regular instruction students "looked up to" the IB students because they appreciate the fact that those courses are tough and admire the students who are able to meet the challenges of the program. In general, at each of the schools visited, students tended to be impressed by the ability of AIG students and students enrolled in IB and AP students, regardless of race.

At High School B, where minority students were enrolled in AP courses (Biology and English) proportionate to their enrollment in the school, there was again no evidence of "acting White" or pressure to underachieve[4]. At High School A, according to school personnel, a significant percentage of the White students who attend the school opt to go to the school specifically because of the IB program. Evidently, the same is not true for the Black students at the school. Similar to the findings at High School A, none of the Black students interviewed at High School B who had taken or were currently enrolled in advanced courses reported any harassment from peers. Comments from a few school personnel support the students' reports. One administrator at High School B said that she hadn't seen as much peer pressure to underperform among minority students at this school as she had seen elsewhere. She said

> *I was really impressed, last year, the first time report cards went out and many of the minority students…walked up to me and said 'Ms. H, look at my report card,' and I saw A's. That was a different experience*.

At most of the schools, team members found that high achievement was valued by all, at least from the perception of the students interviewed. A few of these students admitted that others sometimes made fun of them, but they were quick to add that it was all in fun. Kara, a White AP student, told us that her friends

> *make fun of me a lot for my grade point average. They call me by the number instead of my name. But I don't know, it's a lot of playful joking. And in serious moments they've told me that they're amazed that I can do it.*

As she said, other students are "*intimidated by the amount of work they have to do for one AP class.*" Similar statements were made by many of the interviewed students. **Rather than hearing that students avoided taking advanced courses for fear that they would be ridiculed or ostracized, team members were more likely to hear that other students were envious of AP students and intimidated by or afraid of the amount of work required in advanced courses.** One teacher at Middle School K said that the only time she heard students talk about students in the accelerated classes was when they called them "*the smart ones*." And Kara relayed the following incident:

> *And there's one girl in my Latin class who's always asking about the AP classes and I'm like, "Yeah, we did this today, and you know, we're going to do this sometime next week", you know like an interesting project I'll tell her about. She's like, "Well, I wish I could do stuff like that, but I could never do the AP work," and I think she could, but I think she's scared of the extra responsibility it would put on her, is the main thing.*

Students across all racial lines are dealing with issues related to high achievement. Among Black students those issues tend to be racialized, especially in situations where there is a visible racial pattern of academic placement and achievement. For some who witness this pattern, it means little; for others, this pattern signifies the order of things, a racial hierarchy.

[4] It is worth noting that the minority presence in Honors courses is low in School B; this may be a function of the school's success in including minority students in AP courses.

One of the most profound instances of this was at Elementary School G (87 percent minority), where all five of the White children in one predominantly Black 5th grade classroom were in the AIG program. No other children in the class were in the program. One can only speculate about how observing all of the White children (and only the White children) leave the room for AIG instruction influences what the Black children left behind think about the relationship between race and achievement. Therefore there is a context for some of the comments made, such as this one from Alisha: "*If you make all A's you are White. If you're not coming in here with C's, D's and F's then something's wrong with you.*" The attitudes of White students are also influenced by these visibly stark racial patterns. At Elementary School H, which is 74 percent Black with — up until a few weeks prior to the visit — no Black children in the AIG program[5], one White AIG student said of the non-AIG students "*They're, uhm, most of them aren't as smart as the others and like, ninety percent of the people in this school are uhm, well, really aren't smart at all…*".

Among White students, problems stemming from high achievement remain more generally related to being perceived as "a snob" or, as one teacher said, "the nerd idea." One White student at High School F said

> *If they know you are in Honors or AG, they think you are a genius. People see you in different ways, mostly it's a good way, but they also see you as limited in scope, like someone that does nothing but study all day long*.

Another White student at High School E commented that a friend of hers who is in advanced geometry,

> *really didn't want to be in the advanced class because she didn't want to be categorized as one of the snobs. Because a lot of people in advanced geometry, or the advanced classes are, this is kind of weird to put this, but they're kind of rich and they really are snobs…*

While problems related to placement and achievement were found to be most pervasive in the upper grades, there was some discussion of similar issues among elementary and middle school students. For example, Josh, a White AIG student at Elementary School H, told us

> *I feel like kids don't appreciate me cause I'm in higher classes than them, and I'm afraid that I might lose some of my friends because they think that they're too, uhm, not very, well I guess you say "dumb," to be my friend and uhm, I just don't want them to think that, cause they're not too dumb to be my friend, uhm, nothing matters but what's inside. …Well, my friend in the sixth grade, he was in [program name], [program name] is the program for the kids who aren't very smart—his name was Mark. He got mad at me and wouldn't be my friend for awhile and then I said that I was sorry that he wasn't in there but uhm, it's not my fault that I was, that I was recommended for that, I was just doing my best in school and I got recommended and he said, and told me he was sorry for uhm, not*

[5] One Black male student was placed in their AIG program shortly after we contacted the school about our upcoming visit.

liking me for that long cause I was in AG and uhm, that was basically the only person that was affected by me going into AG.

Both Josh and Alisha (quoted above) hint at a significant but often overlooked point on this matter. Their peers do want to be successful, but they appear to be hurt and insulted when they are left behind academically, and subsequently, they direct resentment toward high achieving students in the form of ostracism, teasing, and taunting. Alisha is conscious of the perception that others may have of her because of her placement and she is also cautious about confirming that perception. In her interview, she commented more than once, "*I don't want to come off like I think I'm better than other people."* The Black students were more likely to express this concern. Even Mae, a 4th grader, hesitated to use the word intelligent to describe herself because she did not want to "brag on" herself, "*cause maybe if I have friends and I brag on myself they might get angry*."

While there was no evidence of taunting and teasing for high achievement among Black students at the elementary schools, a desire to participate in the AIG program was found among the interviewed students. Most perceived the program to be for "the smart kids" and either thought they belonged in that group or liked the idea of being identified with such a group. Some of the minority children with whom team members spoke at Elementary School I used the term "cool" to describe being in AIG or the people in the program. At Elementary School H, Mae told us: "*I feel like I'm smart enough to be in that class [AIG]," which she described as "for the academically intelligent people*." In the high schools, most of the Black students that were interviewed who were not taking advanced courses, particularly those not previously identified as AIG, expressed no desire to do so. This was true for all ethnic groups. Most of these students were content with the courses they were taking and felt that they were where they belonged. **There may be a cooling out process operating for these students such that by the time they reach middle school and high school, many are resigned to their placement, believing that they are not capable of advanced work and that lower-level classes are where they belong.** One White 8th grader at Middle School K told us she thought that she belonged in the classes in which she was enrolled (regular instruction) because she was "not all that smart." Among students taking advanced courses, particularly those previously identified as AIG, they too believed that they were where they belonged. As one of these students said, I've known for so long that I don't think I could go – I don't think I fit anywhere else."

Some indirect evidence was found that some White parents are similarly concerned with the issue of their children thinking that they are better than others. This was found in schools located in the more rural areas of the state. For example, at School K, which is 87 percent White, school personnel told team members that parents sometimes refused the invitation to have their children tested to participate in the AIG program because "they don't want their kids to feel like they're better than anybody else." One individual told us that he used to hear this from parents "all the time." Another individual at this school confirmed the presence of this attitude among parents but added that it came mostly from low-income parents. This teacher believed that parental expectations among low-income parents tended to be low and she cited this and the fact that the parents did not want their kids to be identified as smart as a possible explanation for the underrepresentation of low-income children in the AIG program. Even White students

identified a “high and mighty” attitude, described as “acting like you are better than everyone else” among students in the accelerated classes at Middle School K.

Learning Opportunities

The path to taking advanced courses appears to be most straightforward for previously identified AIG students. Among the sample of students that were interviewed, high school students who had previously been identified as AIG were more likely than their non-AIG peers to have taken at least one AP course in high school (60% vs. 27%). Although this is a small and non-random sample of students, the result alludes to a possible link between AIG identification in grade school and subsequent enrollment in advanced courses in high school.

Differences in course path between AIG and non-AIG identified minority students were starker. Among the 33 minority high school students interviewed, no student on the regular or college prep course path had been previously identified as AIG. Ten of the 14 minority students who were on the AP track and 5 of the 10 on the Honors course path were previously identified as AIG.

The placement process can be a barrier to enrollment in advanced courses early in the high school career. One student interviewed at High School D spent considerable time explaining how her 8th grade counselor attempted to discourage her from enrolling in the higher-level courses she wanted to take in high school. At High School F, it was learned from counselors that only AIG students and other high-achieving 8th graders (students who receive teacher recommendations and who score at Levels III and IV on their EOGs) are encouraged to enroll in Honors courses in the 9th grade. At the 10th grade, the process becomes more open and students are able to enroll in any course as long as they meet the prerequisites. At this school, an AIG coordinator also monitors the AIG students to ensure that they are taking the appropriate courses to remain in AIG. With the exception of High School D where they were in the process of phasing out the AIG program, no other high school continued to monitor or provide additional services for AIG students. Among the students interviewed at School F, all 8 of the AIG students were taking advanced courses compared to only 3 of the 6 non-AIG students (all students were either juniors or seniors).

Exposure to a more challenging curriculum in the early grades better prepares students to meet the requirements (e.g., heavy work load, in-depth material, etc.) of advanced courses as they progress through school. The AIG programs in the schools largely focused on teaching problem solving and critical thinking skills using a variety of projects and activities. On one level, preparation for enrolling in higher-level courses is a matter of building these critical skills as well as students’ self-confidence. The interviewed students who were previously AIG-identified tended to convey less reluctance to take advanced courses than other students. While they, too, would like to “relax”, as one AP student said, they appear to be more confident about their ability to handle the workload and to do well in AP and Honors courses than students who have not had prior exposure to an advanced curriculum. Isha, for example, said she

> *knew they [Honors courses] would be harder than regular, but I mean, I didn't know exactly how hard they would be. I mean I know it wouldn't be real, real*

hard. I knew I could do it. I mean I knew I had good grades in certain subjects all the time so I knew maybe I was better in this and whatever, so I'll just take an Honors class.

Conversely, Liz, a Black student who had not been identified as AIG, was taking an Honors class for the first time as a senior and, by her own admission, was struggling. Not all non-AIG identified students interviewed struggled in advanced courses, however.

On another level, preparation is purely a matter of the sequence and timing of courses. A primary case in point is the math sequence. Students who have the opportunity to take Algebra in middle school are on track to take more high-level math courses in high school. Although students offered no comments on this point, some school personnel did.

But one problem I found, here lately, among the Black students, so often they take those lower-level math, in the middle school. And when they get to high school, they don't have a foundation. And you can look at their grades, K through four, and see that they were pretty good students. But a lot of them got labeled as discipline problems or just weren't tracked properly, so if your kid comes to me and they've got an A in pre-Algebra, I cannot put them in Algebra I, I have to put them in Algebra IA or 1B, based on our criteria. … See, a lot of parents don't understand this. My kid has an A. Yes he has an A, but he has an A in the lowest math, and this doesn't prepare them for the highest math. And I think kids need to be educated in the middle school. And if you get the kids put in a fifth, sixth, seventh, and eighth grade, on a lower level math, they are not going to have the skills…

As this counselor points out, some students enter high school academically unprepared to take Algebra I. In cases where the student has to break the class into the 2-year or 2-semester sequence, the number of advanced math classes they will be able to take further decreases.

At the middle school level, Algebra is not always open to all students. This was the case at the two schools visited for this study. Pre-algebra and Algebra were open to 7th and 8th grade students, respectively, based on set criteria. Both schools required specific math grades and EOG test scores. Middle School K also required a qualifying score on the Orleans-Hanna test and the other added teacher recommendations. At Middle School J, parents can disagree with the recommended placement and have their student placed in the accelerated class; however, most do not. At Middle School K, teacher recommendations were eliminated as part of the placement process for accelerated classes due to parents pressuring teachers to have their children placed into accelerated classes.

Teacher Expectations

At most of the schools, the teacher's role in the placement process was significant: teachers are often the first to call attention to students with higher potential and refer them for AIG testing or encourage them to take advanced courses. In terms of AIG identification, this is a key role, especially in schools that do not have "sweeps" (annual tests given at a particular grade

level to screen for possible AIG identification). This is particularly important for minority students, whose parents, from all reports, tend to be less aware of these special programs.

In interviews with elementary school personnel it was learned that these schools currently had no systematic process of getting information on the AIG program to parents. None of the three elementary schools included information on the school's AIG program in the school handbook (if there was a handbook). One school was in the process of adding that information to the handbook for the upcoming school year. And while another school did have a pamphlet on the AIG program, the African American children with whom team members spoke were more likely to report that their parents did not know about the AIG program. In most cases, it was the children who informed their parents that there was such a program. Moreover, although this school has an open house session, no information on the AIG program is presented.

The most common explanation offered by school personnel for the paucity of minority students in the AIG program and accelerated classes is that these children are less likely to meet the achievement and/or aptitude test score requirements. School personnel often perceived students' failure to meet these requirements to be tied to a range of family background factors and social problems, including limited mainstream cultural experiences, less educated parents, lack of parental support, lack of encouragement, lack of emphasis on education and excellence, and lack of discipline and supervision in the home[6]. Some teachers were also said to be less likely to nominate minority children for AIG screening because the children do not exhibit the verbal skills, academic performance and/or behaviors that teachers consider as indicators of giftedness. In fact, some school personnel suggested that behavior is a major factor in teacher nomination decisions and that teacher perceptions of children based on behavior keep many children, particularly minorities, out of the program.

At one elementary school, however, found something different was found. At Elementary School I, a few individuals mentioned that they paid particular attention to students who exhibited behavioral problems because those behaviors sometimes indicate that a child is bored and would benefit from more challenging work. One teacher also mentioned that she looks for children with "questionable social skills," as this too can be an indication of giftedness. This teacher has nominated two children in her classroom for AIG screening this year; one has met the placement criteria and the other, a Hispanic male, has not. Both children are currently receiving services. Here the teacher addresses the issue of behavior:

> *It can be either [that when a student has] severe behavioral problems, [teachers] fail often to recognize them. They think that [if] they're a behavioral problem, they're not smart, if they were smart, they wouldn't be a behavioral problem. So what I usually look for is students that may be depressed, show signs of depression. …so I think this is an area that a lot of teachers are failing to recognize, that these students are, a lot of your worse behavior problems are really extremely gifted and I think that's where we're missing the whole boat on a lot of students being identified…*

[6] Although we were more likely to hear these explanations in the context of discussions of minority students, we heard similar explanations for the academic problems of White children.

Of the Hispanic male student she nominated for AIG screening, the teacher said

> *He would be a prime example of a New York State gang leader. New York City gang leader, prime example. He's got a great personality but he's frustrated with the whole – you know he has problems at home, father died at an early age so of course that's a problem and he needs counseling. …And I think it's really a shame that we are missing these kids. …he, he'll whip through his accelerated math in a matter of minutes and he's up at my desk wanting more. Well, if I was the typical teacher I'd say, "Go sit down, you can read a book, just wait until the others catch up." Well that's wrong, that's wasting his time. I'll say to him, "Okay [name], go ahead and ask the computer specialist if she can run you a new report, you can work on that." And often I'll have him at his back table doing his own thing, totally separate from the rest of the class. …This is the one we're watching, that I want, I'm hoping he'll be identified by the next year. I think the problem is a lot of these students that have behavioral problems, and they have anger and frustration, it's keeping them from being able to perform. And I think even though they have given him IQ tests, I think he is capable of much, much more, but he has to be in a good mood to take a test. If it's not a good day for him, he'll just throw papers on the floor and say, "I'm not going to do this and I don't care." And just by me allowing him to work at his accelerated math at his own pace and let him choose what he wants to do in math, he's showing progress. Most teachers want to have their thumb on the children; well, these children don't need a thumb.*

This child was fortunate that his teacher responded to his behavior in this manner. For most children, the response is quite different. Black personnel, particularly at the elementary schools in the study, almost always brought up this issue of teacher perceptions of behavior. Some also mentioned that they thought that teacher expectations were low for minority children. Low expectations were attributed, again, to a host of family background factors and social problems.

It is important to note that both AIG-identified and "high-potential" students are served in the program at Elementary School I. The school currently serves these students through a pull-out program with an AIG specialist and through enrichment within the regular classroom, usually with an AIG-certified teacher (the school was in the process of having all classroom teachers obtain AIG certification). The AIG specialist informed us that they were in the process of restructuring the program so that high-potential children are served within the regular classroom and only the identified students receive pull-out services. **Program structures that provide services for high-potential students may make a difference in allowing more children to receive enrichment. However, this may not necessarily address the issue of the underrepresentation of minority students.** For example, at one elementary school, teachers in the lower grades were providing enrichment within the regular classroom for high-potential students, but some of the teachers described what they thought were low expectations for Black students and said that Black children were not pushed or expected to be "bright" students eligible for AIG. Thus, just creating space to include more students may not in and of itself have the desired effect of increasing minority student representation in these gifted programs unless other changes occur as well.

At the middle and high school levels, teacher and counselor expectations are communicated through student placement recommendations. At all schools, recommendations are based on past performance, including test scores and grades. In most cases, student interest, level of motivation, and goals are also considered. At middle schools, though, teacher and counselor perceptions of course difficulty, regardless of student prior performance and ability, often work to discourage students from taking advanced courses. As students transition from middle school to high school, they rely heavily on counselor and teacher recommendations for placement. And while parents are always included in this process, they too seem to rely on the recommendations of school personnel. For example, although in most cases parents have the option of some type of a waiver (formal or informal) to go against a placement recommendation, most follow the school's recommendations. In any case, there are times when school personnel make recommendations that underestimate student potential. Some of these cases were discussed by high school students.

> *When we were in middle school, we were told not to take the Honors courses because they were too much work and unless you had a hundred average not to do it. My eighth grade year, I had to* ***beg*** *to be put into the Honors courses and I had straight A's. I had a hundred and two final average in science. But they just didn't think that people would succeed, and I find that school counselors won't let my friends in Honors courses, and they're afraid that they won't succeed and that they'll be putting them in a class that's over their head. And they did that to me in eighth grade but I'm the type of person that if you tell me I'm not gonna succeed, of course, I'm gonna take the class* ***just*** *to prove you wrong****, just*** *to prove you wrong. But my friends got discouraged and I find that, I have friends that are freshmen this year, and last year [I told them], "Oh, please take the Honors course, it's not that much harder, you'll do it, it'll look good." And their counselors just tell them not to. [Counselor name] did not want me to take the Honors and the AP courses. We have to do a four-year plan and plan out all the classes we're taking, and I had every AP class I could possibly squeeze in there on my schedule and every Honors course and every French and everything that I could possibly get in there and she said, "But don't you want to take interior design and don't you want to take theater?" …And that happened to a lot of my friends and so a lot of my friends are taking drafting and graphics, which are good courses…but that' s not where they want to go. [emphasis in the original]*

A student at another high school told us that her 8th grade Algebra teacher told her class not to sign up for Honors classes in 9th grade because he did not think they were prepared. She explained that the teacher had been out sick a lot during the term and was concerned that the students were not prepared for the next level of math. The student took the Honors class in spite of the recommendation and earned above 90.

This last student is Black and the former is White. The issue of teacher expectations is important for all students in matters of placement. However, some personnel (both Black and White) at a handful of schools told us explicitly that discrimination and/or racism was a factor in the underrepresentation of minority students in gifted programs and advanced classes.

Socioeconomic Status

From the interviews with students and school personnel, it was learned that parents also play an important role in student placement. More educated parents seem more likely to advise their children to take more advanced courses. However, many of the interviewed students who were taking advanced courses, independent of parent education, explained that their parents told them that they would benefit in some way or another from taking advanced courses. In some cases, high school students or school personnel report that parents "push" children to take advanced courses. From the perspective of the school, this was not always a good thing. Counselors, teachers, and principals expressed concerns about parents pushing students into classes that did not seem appropriate for the child. On one level the concern was for the student. If the class is too difficult, the student may struggle, or at worst, fail, not to mention that the student is likely to be unhappy. On another level, the concern was for the teacher. Most teachers of advanced courses prefer to have students who want to be in the class, are highly motivated, and have an interest in the subject matter; such students tend to do better in the course and present less of a challenge for teachers. These are some of the characteristics that teachers and counselors look for in making most placement recommendations. "Pushy parents" were also mentioned at a few of the middle and elementary schools in the context of discussions of the AIG placement process. The parents who were most likely to be "pushy" or to push their children into taking advanced courses were often described as higher-income, more educated, and White. Interestingly, among the minority high school students that were interviewed, there were no differences in parental education between students on the advanced course path and those on the regular instruction path.

In general, from most accounts, more highly educated parents appear to be more aware and knowledgeable about the programs and opportunities available to students. These parents also appear more assertive and persistent in finding out what is available and getting their children access to those opportunities. While parents were not included in this study, some insight was gained about the role of parents from school personnel who faced some of these issues with their own children. These individuals eagerly shared their experiences. Here, a guidance counselor recounts her experience:

> *My daughter participated in Governor's School, but I have to be honest and say one of the reasons she did is because I persevered in looking at some of the things. When I moved here, like I said, she was tested for AG and she would always miss by one point. So I wound up taking her to a private psychologist, and he said there's no reason why she should not have been placed in the AG program. I even wound up calling Raleigh to see what the guidelines were for the AG program. And she did get into the AG program. And you know, she was very successful. But I think that one of the reasons she was very successful was because both me and my husband, we monitored her progress throughout the whole process, and so many kids do not have parents that monitor them, and they sort of get lost and by the wayside, because I know there was a little boy in her class, he wound up going into the service. But when they were in the eighth grade he pretty much had the same GPA as my daughter did. But at the time he got out*

of high school, you know he did not have that parental support and a lot of things he was not able to participate in, a lot of things he was not aware of. And a lot of things that I did, -- I connected with guidance counselors at other schools and everywhere, to find out what she should be doing and how she should be doing it.

This woman's statement raises another issue, that of financial resources. In many schools, parents have the option of an external evaluation for AIG placement; however, not all parents know this, and many are not able to afford to go this route. Another school counselor also had her daughter tested by a private psychologist.

Going back to my own experience with my own child, pushed for it and she was identified. …Well at that time, this must have been like eighty-six, eighty-seven, she was a second grader. I think they had a program in the system called Exploratory AIG meaning they would take the little kids and they'd go out and they'd do some stuff. All of her friends were in it. I didn't know what she was talking about. I wasn't even in the school system then. And so I went and I found out about it – it was in [name] County Schools at that time. And so I went and asked about it and she was placed in there. Then in third grade when they did that sweep she did not qualify, that third grade test. ….Then the AIG teacher gave a—she along some AIG kids, another group IQ test, still didn't qualify. And so I just had her tested independently and of course she qualified.

Both of these parents are Black, and although race may not have been a factor in their experiences, they do suggest that with more advocacy for Black children, either by parents, teachers or some other adult, more children would be able to participate in AIG programs.

While some parents push their children to take advanced courses, others sometimes support their children's decision to take lower level courses against the school's recommendation. At the elementary and middle school level, some parents refuse to allow their children to participate in the AIG program because they do not want their children to think they are better than other kids. Most of these accounts came from schools in rural areas and often, but not always, the parents tended to have less education themselves.

IX. Promising AIG and Advanced Studies Programs in LEAs

The programs and strategies identified in this Section suggest structures and models that may be useful in better identifying and serving minority and low-income students. The specific instruction and services provided were not assessed and no judgment is placed on those aspects. However, the structures and approaches seemed to represent new directions of promise.

Gaston County: Pathways to AIG Services [Contact: Dr. Brenda Romanoff, Director of Advanced Studies]

Gaston County appears to have a very progressive and well-thought out AIG program. It is built upon a multiple–intelligences, problem-centered philosophy that integrates targeted critical thinking skills across disciplines for identifying and serving underrepresented populations. The philosophy of this program was featured in *Educational Leadership,* September 1997, in an article titled "Using Multiple Intelligence Theory to Identify Gifted Students" written by Carol Reid from the Charlotte-Mecklenburg Schools and Dr. Romanoff.

Dr. Brenda Romanoff has been working to develop more clearly differentiated levels of services that meet the needs of highly able and gifted students and to develop Service Delivery Options with clear criteria for identification and service for each level - called a "pathway." This model illustrates service delivery levels or pathways of differentiation based on individual student instructional and curriculum needs.

While students are identified at all grade levels, grade levels are grouped into grade clusters and each cluster has Service Delivery Options that specify the following: Pathway (i.e., Service Level), Learning Environment, Content Modification, and Criteria for meeting that level. An important feature of this programmatic approach are clear, but somewhat flexible, identification criteria and clear learning environments/settings as well as content or curriculum to be delivered at each level. Differentiated Education Plans (DEPs) are to be consistent with the level of service met by the student.

Teacher referral creates a screening pool at each school beginning in Kindergarten. The AIG teacher and assistance team review multiple criteria (aptitude, achievement, performance, and teacher recommendation) to determine if the student should be assessed for the AIG program and, if placed, which pathway(s) are most appropriate for that student. The first pathway is classroom enrichment grouping in reading or math. The second pathway is direct service from the AIG teacher in and out of the regular class. The third pathway is content acceleration in reading and/or math with indirect services from the AIG teacher, but provides the opportunity for the student to attend class at a higher grade level. The fourth pathway is grade acceleration, which requires extensive testing, observation, and a team decision for permanent placement at a higher grade level.

An important programmatic feature at Grade 2 is the "Composer Program" at select schools with 40% free and/or reduced price lunch. This program was developed to pursue the exploration of ability among a larger group of disadvantaged and minority students, including

those not yet at the AIG level but with the potential to be AIG. A class of Composer students demonstrates strong abilities and potential but their academic skills vary greatly from student to student. Schools are selected on a volunteer basis by a central office team, must serve a diverse population of students, and must make a strong commitment to teacher staff development. After placement, some students may ultimately be identified as gifted, but the program does not guarantee that outcome. It does guarantee that the instruction will be differentiated, so that both the thinking skills and academic skills of all Composer students will be challenged and strengthened.

Pathways for grades 6-8 are based on middle school curriculum offerings and structures. The first pathway is Honors reading/language arts (LA) and/or mathematics. The second pathway is advanced reading/LA or mathematics. The third pathway is Algebra 1 in Grade 8, and the fourth pathway is content acceleration in reading/LA and/or mathematics.

High School pathways are somewhat different given the structure of the high school curriculum. Each of the following pathways specifies the achievement required, prerequisites and any recommendations required:

First Pathway :	Honors Classes
Second Pathway:	Advanced Placement Preparation Classes
Third Pathway:	Advanced Placement Classes
Fourth Pathway:	Huskins Program
Fifth Pathway:	Dual Enrollment

Other Notable Program Aspects: A TAG (Talented and Gifted) Team of four expert teachers was established to work with the middle school teachers on differentiating instruction and curriculum, finding resources, providing professional development, as well as identifying eligible students. These teachers work with Grade 6-8 teachers in their classroom, providing model lessons and co-teaching at times.

Early results for minority representation: Although only begun in the 2000-2001 academic year, this clearly specified and incremental approach to AIG identification and service delivery is already yielding results in raising the percentage of minority students in the AIG program. For example, in grades K-5, 11% of the AIG students are minority (as of March 2001), rising from 7% at the beginning of the school year. In grades 6-8, the percentage has grown from about 5% to 8%. In grades 9-12, the growth was 50 percent, from 6% to 9%. While these percentages are below the minority population of the school system as a whole, the increases in growth within a well-defined rigorous program are notable.

Gaston County: Ashbrook High School

Principal Bob Wilkerson has used flexible scheduling to develop an “Advanced Studies Academy” to provide expansion of Advanced Placement (AP) and Honors opportunities for students at Ashbrook High School. The creation of the Academy will “afford teachers a common, collegial planing time to develop interdisciplinary teaching strategies, utilize outside learning resources, and develop leadership and teaming among staff and students" (from

Statement of Philosophy). He has used a combination of 4x4 and A/B block scheduling to establish three academy "tracks:" a Four-Year Plan for Honors, a Four-Year Plan for Advanced Placement, and a Four-Year Plan for AP Acceleration (for students coming to high school without Algebra 1, basically a "fast track" for students not getting a head-start in middle school). He handpicked very strong teachers for the Academy. Academy teachers are all AP certified and are required to have or obtain AIG licensure.

They do not have open enrollment, but if a student does not meet one piece of the criteria, they can waive it and have the parents and students sign a letter of commitment. They also have made some exceptions if a student is marginal on entrance requirements but really wants to try the Academy track, again getting a letter of commitment. Mr. Wilkerson noted that while enrollment is not open, they have a responsibility to "grow" their students, to prepare them for more rigorous courses.

Again, although 2001-2002 will be the first year of implementation, the gain in minority student enrollment is promising. The following enrollment figures are provided for the upcoming year, representing a large increase in minority enrollment over Honors and AP courses for the 2000-2001 school year (which was typically 2 to 3% in the past).

Minority Enrollment in Honors Courses 2001-2002 School Year		**Minority Enrollment in AP Courses 2001-2002 School Year**	
Eng.11	22%	Eng. 11	10%
Eng. 12	30%	Eng. 12	13%
US History II	22%	US History II	10%
Sociology	23%	European History	13%
Algebra II	23%	Statistics	14%
Pre-Calculus	26%	Calculus	13%
Chemistry	23%	Biology II	12%
		Environmental Science	18%
		Physics	25%

Guilford County Schools Advanced Learner Program [contact: Ann Barr]

The Advanced Learner Program, which is in its third year of implementation, emphasizes appropriately matching a student's demonstrated need for academic differentiation to a specific service level on a continuum of services.

Identification. Multiple criteria - achievement and aptitude test data, grades, a teacher checklist, and portfolios – are used to determine eligibility. If they meet 4 out of the 5 criteria, students are then identified as having either a moderate, strong, or very strong need for Advanced Learner services. Further efforts are made through additional and alternative assessments (e.g., nonverbal tests, etc.) to identify and serve those students who have been underrepresented in AIG programs in the past. The qualifications for the strong and very strong

service levels approximate the requirements that were traditionally used to determine AIG eligibility prior to the passage of Article 9B. The Moderate level of identification adds an additional tier of students who receive services. Identification of students typically begins at the end of grade 2, and student data are reviewed each year at the higher grade levels as well to find new candidates for the program. Trained teams at each school, which may include parents, counselors, the school's AIG specialist, and others, carry out the identification process. According to the system, this new program has resulted in an increase in the percentage of minority students receiving AIG services in Guilford County.

Service Delivery. A Differentiated Education Plan (DEP) is developed for each student in the program that describes the specific curricular and instructional modifications that will be made for the student. Services provided to students in the moderate category typically include differentiation within the regular classroom, while the strong and very strong category students typically receive at least some pull-out instruction along with homogeneous grouping and/or differentiation in the regular classroom. Students in the moderate category may also receive some pullout services on a space-available basis in some schools. Another important aspect of the program is that students who are originally identified in the moderate or strong service levels can move up to higher levels of service as their academic performance improves. For example, based on EOG scores from 1999-2000, 416 students (including 53 non-White students) moved up from the moderate to the strong category for the 2000-2001 school year. Delivery of services is supported by an AIG specialist assigned to each elementary school (at least half-time) and five program facilitators at the middle school level (shared by all middle schools in the system). *In high impact schools (i.e., schools with many at-risk students), these specialists focus on nurturing and enriching the top students so that more of them can be found eligible for the Advanced Learner Program.*

Charlotte-Mecklenburg Schools [contact: Mr. Jimmy Chancey]

The Charlotte-Mecklenburg school system (CMS) has several innovative programs in place to provide all students with access to high-quality, rigorous curricula. In addition to having a tiered model of advanced curriculum services in middle school, they have also implemented as of this school year a special AP program for all of the high schools in the district.

Talent Development Program. At the middle school level (grades 6-8), CMS has a Talent Development program in place system-wide for English/language arts and mathematics. The program has two tiers - Accelerated and Scholars - which have open enrollment. Although many of the students in this program are AIG-identified, the program is open to any student who wants to enroll. This Talent Development program provides accelerated, high-level instruction in core subjects that allows middle school students to have access to what is typically high school-level coursework. For example, the Accelerated tier telescopes the middle school mathematics curriculum so that students are ready to take Algebra I by the time they are in 8th grade. In essence, the typical 6th-8th grade middle school mathematics curriculum is condensed into two years to allow students access to Algebra in middle school. The Scholars tier condenses the math curriculum even further so that students can take Algebra I as 7th graders and Geometry in 8th grade.

Access to this level of coursework in middle school should theoretically pave the way for enrolling in higher-level courses in high school, and is therefore particularly important for students who are underrepresented in those courses. Although White students enroll in the program at a higher rate than Black students, anywhere from 17-24% of the system's Black students are enrolled in the program, depending on the tier, grade level, and subject area. Although enrollment in this program is open, middle school counselors also make specific efforts to find candidates for the program by examining students' cumulative folders each year to ensure that students who show potential are encouraged to enroll.

AP Program. At the high school level, CMS has started a system-wide AP Certified Schools program. This initiative allows each of the 14 high schools in the system to apply to become "AP Certified". This certification is based on four global criteria, under which there are several benchmarks that the school must achieve. High schools that meet certain indicators under each of those four criteria receive a Silver award, and those that meet even higher standards are given a Gold award. The program is currently in its first year, with 10 of the 14 high schools in the system achieving Silver award status. In this first year, schools only had to meet the first criteria (Course Offerings) to be certified; as of next year, schools will have to meet all four criteria.

The first of the four criteria for this program requires schools to offer certain AP courses within five domains: Languages, mathematics, natural sciences, social sciences, and elective. The level of the award given to the school (i.e., Silver or Gold) depends on the depth of course offerings in each of these five domains. For example, in mathematics, a school must offer AP Calculus AB and AP Statistics to be eligible for a Silver award. To get a Gold award, however, a school must also offer AP Calculus BC.

The second criterion - Program Support - has to do with the presence of various instructional support mechanisms that are in place to help students get ready for AP courses. For example, schools must offer Pacesetter courses in English to obtain a Silver award, or in English and Pre-calculus to qualify for a Gold award. Pacesetter courses are designed by the College Board, and essentially serve as "pre-AP" courses to help prepare students for AP courses in those subjects. Other indicators within the Program Support criterion include the presence of a certified AVID program in the school (see the AVID description later in this section), vertical faculty teams in core subject areas, and appropriate instructional materials such as those supplied by the College Board.

The third criterion - Professional Development - has to do with the training and credentials of the teachers who are teaching AP courses. Some of the specific indicators that schools must meet refer to the percentage of AP teachers who hold master's degrees, as well as the percentage of AP teachers who hold AIG licensure. The school must also provide evidence of recent AP and Pacesetter training for teachers who teach AP courses. In addition, all AP teachers must have either a college degree and/or certification *in the specific AP area that they teach* in order for the school to qualify for either award level.

The fourth criterion - Student Access and Support - focuses on the mechanisms the school has in place to encourage students to enroll in AP courses and the supports that are

available to them once they are enrolled. One interesting aspect under this criterion is that schools must use students' PSAT scores to determine appropriate course placement. CMS administers the PSAT to each student in 9th and 10th grade every year. One of the end products of this assessment is an individualized profile (generated by the College Board) for each student based on her/his PSAT results that helps counselors and teachers determine which AP courses each student should take. During the summer, counselors are paid to work extra hours contacting students who are qualified for particular AP courses according to their PSAT scores, but who have not enrolled in those courses, in an effort to encourage them to enroll. (A proposed change for the 2002-03 school year will automatically enroll every student in each AP course for which s/he is qualified based on PSAT scores, and the student will then have to request to drop the AP course in order to opt for a lower-level offering.)

This fourth criterion also requires schools to remove prior approvals and prerequisites from all AP courses to encourage enrollment. Other indicators under this criteria include the presence of tutoring and extended day programs for AP students from underrepresented populations as well as availability of distance learning and online resources for AP curricula. In support of this last requirement, CMS has purchased access to the APEX online review for all students. This online resource provides instruction and benchmark testing that students can use to help prepare for 10 different AP exams during the weeks leading up to the Spring AP testing sessions.

The AP Certified Schools program reflects CMS's commitment to encourage more students to enroll in high-level courses. Over the last few years, CMS has made significant progress in this area, particularly among Black students. Since 1996, the number of AP enrollments by Black students has more than doubled, rising from 431 in 1995-96 to 974 in 1999-2000. The number of AP exams taken by Black students also increased accordingly from 130 to 406 during that same time period.

Chapel Hill/Carrboro Schools [contact: Sandra Page, Coordinator of Gifted Programs].

With the introduction of the new AIG plan in this system, a major focus was created on differentiated instruction in order to meet the needs of gifted students. The system's experiences implementing a successful differentiated instructional program were featured in *Educational Leadership,* September 2000, in an article titled "When Changes for the Gifted Spur Differentiation for All" by Sandra Page. Also, the high school will begin "clustering" minority students in the 2001-2002 school year when there are only a few such students who are enrolled in a given AP course. This grouping is hoped to achieve additional peer support as they work together in these rigorous courses.

Advancement Via Individual Determination (AVID) [contact in Chapel Hill/Carrboro: Terry Greenlund].

AVID is being implemented in various schools in at least 7 LEAs across the state. A number of other LEAs across the state are in the initial stages of implementing this program. The Charlotte/Mecklenburg and Chapel Hill/Carrboro school systems have had the longest experience with AVID and are beginning to obtain some information and results on the effects of

the program. Both of these systems have strong AVID programs and are models for other LEAs wishing to implement this type of model. AVID is a nationally developed program that has been implemented across the nation in various places for the several years. AVID targets average-achieving students who show higher potential but would not normally opt or be eligible for rigorous or academically challenging classes the opportunity to take those courses, as well as to receive the support necessary to succeed in them. The goal of the program is to increase the number of students in this target population who gain admittance to and successfully graduate from college. These students are often first-generation "college-goers." Among other activities, AVID provides a class where identified students are provided problem-solving instruction and practice, homework support/assistance, support for each other, and instruction on how the Honors/AP system works.

For three years of graduating AVID cohorts in the Chapel Hill-Carrboro school system, almost all of them have gone to four-year colleges. In the first cohort, one student went into the military. In the second cohort, one student did not engage in the program and did not continue with post-secondary education, and another student decided to attend a two-year community college for the first two years. In the current graduating class of AVID students, all participants are going to four-year colleges. Clearly this program, with an enrollment of at least half African American students, has met the goal of getting students to college. It should also be noted that AVID teachers and staff demonstrate real commitment and devote extra time to helping students understand and complete the college application process.

Chapel Hill-Carrboro's AVID program has plans for 2001-02 to work with the system's AIG program to include minority middle school students who have higher grade-point averages and are already enrolled in advanced programs. These students would not typically be included in AVID because they already achieve at a higher level. However, it is believed that they could benefit from the support system that AVID provides in an effort to ensure they remain in the advanced studies programs.

X. Conclusions and Recommendations

These recommendations and conclusions are drawn from the data analyses, the case study visits to schools selected for varying Disparity Index scores, and the visits to districts and schools that demonstrate promising practices conducted by DPI staff. Recommendations by the external evaluators that overlapped with those of DPI staff were merged. Recommendations are grouped according to the categories of Policy Considerations, Identification and Participation, Program Structure and Student Support, Rigor in All Programs, Student Motivation, and Data/Information. Some of the recommendations overlap other categories, and aspects of one recommendation may relate to others.

Policy Considerations

1. Insure that all students take Algebra 1 before they enter ninth grade. The elementary and middle school years seem to be critical **gateways** to confidence and preparation for more demanding high school courses. The specific "Algebra Gateway" appears to be particularly important. LEAs that do not offer Algebra 1 at the middle school level would need to develop the instructional capacity to do so. In general, a more demanding curriculum that is successfully completed in middle school will more likely lead to the confidence and competency to take more demanding courses in high school. Excellent curricula exist to expose elementary school students to the principles and foundations of Algebra (Hoff, 2001b). The techniques developed by Robert Moses' team in the Algebra Project may prove fruitful for universalizing Algebra exposure during middle school (Hoff, 2001a). Hoke County's STAR Algebra 1 project also may provide an effective model for providing Algebra instruction to middle school students. The state may need to consider the potential disincentive effects on earlier Algebra instruction posed by existing regulations that preclude giving high school credit for Algebra or Geometry courses taken in middle school.

2. Explore modifying the state's accountability program to incorporate a component that addresses the academic performance of minority students. High ABCs performance composite scores are not generally associated with better minority representation in advanced curricula. For example, at the high school level, in addition to achievement on EOC tests, the state accountability model should consider measures such as percent minority enrollment in Honors and AP classes, as well as disaggregated growth and performance composites by ethnicity. The modified school performance criteria should continue to be linked to principals' and teachers' incentives via salary supplements.

3. Establish district-wide policies regarding and monitor academic progress of minority students. In all districts, a high-level administrator should have responsibility for monitoring the academic progress of minority students and establishing district-wide policies to facilitate access to (and success in) high-level courses and programs for minority students.

Identification and Access to Advanced Coursework

4. Improve identification of minority AIG students at earlier grade levels. Prior AIG/Honors experience for minority students in promoting their subsequent participation in AP classes is important. This might be accomplished (1) by using more diverse methods and instruments and (2) by training teachers to see talent in more varied ways. Typical identification measures appear to be skewed towards children's ability to communicate in standard English (George & Harrison 2001). This may adversely affect judgments about those black children who do not speak standard English. Of course, many younger Hispanic students only speak English as a second language. Since the results of this study show that teacher recommendation is currently the most significant route to AIG status or subsequent testing for AIG eligibility, professional development aimed at enhancing teachers' ability and sensitivity in identifying a wider range of students who can benefit is essential.

5. Use multiple and diverse assessments that tap individual skills in different ways. A number of LEAs indicate that they use non-verbal intelligence tests, such as the Ravens Progressive Matrices, the Naglieri Nonverbal Ability Test (NNAT), and the Test of Nonverbal Intelligence (TONI), in an effort to identify students who may manifest their advanced abilities in different ways. This study found that schools using a particular non-verbal assessment (Ravens Progressive Matrices) do not necessarily identify proportionally more minority AIG students. The *will* to change the demographics of AIG populations is more critical than the particular testing instrument, but the use of a broader range of instruments that test for analytical ability without being bound by particular skills will be helpful.

   While the limited available data do not indicate that more minority students in North Carolina are identified by such tests, more diverse assessments are desirable and reflect the contemporary understanding that ability is manifested in different ways. Naglieri (1999) has shown on a national sample that similar percentages of black (2.4%) and white (2.5%) students are identified at a cut-score of 130 on the NNAT, followed by 1.8 percent of Hispanic students. Thus, LEAs might consider following up with additional and different assessments to increase the numbers of minority students in advanced programs.

6. Provide professional development that helps teachers and administrators gain a deeper awareness of the multiple forms intelligence can take and of diverse ways of teaching. This recommendation is linked to multiple forms of assessment for identification; however, it addresses the ways assessment information may be interpreted or student talents may be manifested. Persons providing professional development would need to have expertise and be current in best practices and approaches in the area of multicultural education and meeting the diverse needs of under-served populations. Trainers with such expertise will assist teachers and administrators in gaining a deeper awareness and understanding of multiple forms of intelligences and the application of this information within the curriculum and the delivery of instruction to diverse learners.

7. Explore ways to more rapidly identify and place minority students in AIG programs. George and Harrison (2001) suggest that principals of any middle or elementary school with

severe minority AIG underrepresentation could immediately raise the minority presence in AIG by at least ten percent and that this can be justified on the basis of errors in minority identification. While a specific percent is hard to determine objectively, schools with severe underrepresentation should consider options for an immediate remedy. Schools with High Potential programs in place can draw students from them who would likely succeed in AIG. The absolute number of minority students in advanced curricula as well as their relative presence must be addressed.

One possible strategy is to consider the top 15 percent of students (based on developmental scale scores, not percentile ranks) in the LEA as AIG eligible. Then take the next 15 percent as a nurturing pool to be provided with a critical thinking skills curriculum that will enable them to meet the AIG standards. This second 15-percent tier can constitute the High Potential group in schools that have not yet adopted such an initiative. As the children begin to develop their skills as critical thinkers and start seeing themselves as high achievers, it will justify extending the critical thinking skills to a still wider group of students. All students should be reviewed annually to determine whether they might benefit from curricular experiences that emphasize development of critical thinking skills.

8. Provide professional development that assists teachers to distinguish between behaviors and academic ability. Students who are "teacher pleasers" are not always gifted; disruptive behavior is often linked to boredom or mismatched instructional approaches; and a passive student may be a gifted student with a disability. Teacher perceptions of lower academic potential being linked to disorderly or passive behavior have to be changed. Talented students, especially minority students, may never be recognized as meriting more challenging study in the early years because they do not behave in ways that preserve some teachers' views of the orderly or desirable classroom.

9. Systematically seek out high-performing minority students. The results of this study indicate that some higher-scoring students choose not to enroll in advanced courses. In Charlotte, where the PSAT is administered to all 9th and 10th graders, students who score well but are not enrolling in Honors and AP courses in high school are contacted by counselors each summer and encouraged to enroll. This deliberate identification and encouragement of able students takes time and effort, but probably results in including more minority students enrolling in more rigorous courses of study.

10. Provide open-enrollment opportunities to participate in advanced courses. A number of schools indicated that they have open enrollment for Honors courses, AP courses, and the International Baccalaureate. That is, while they may recommend that some students enroll, they will include others who may not immediately meet some defined eligibility criteria but who are committed to making a serious effort in the course. Some require a letter of commitment by the student (and sometimes parents). Other schools have defined entrance requirements, but have flexible requirements or waive them for students who indicate a willingness to make a serious effort in the advanced course.

11. Use technology to provide access to and to support success in advanced courses. One of the major findings in this study demonstrates that AP courses and in-field AP teachers are not

equally available in all schools in all areas of the state. Online AP courses may be a way of offering advanced coursework to students in schools and LEAs where it is prohibitive to offer the depth and breadth of AP course offerings that can be found in larger schools and systems. Other online resources such as APEX – an online curriculum resource designed to help students prepare for some AP exams – represent another possible avenue whereby students can have access to advanced course materials regardless of where they are located. The DPI should explore costs associated with this approach.

12. Expand statewide incentives designed to increase the number of minority and low-income students taking AP exams. Through submission of a grant to the U.S. Department of Education, the DPI plans to build on activities already in place that give underrepresented groups access to AP opportunities such as online exam review and exam fee reduction. With the additional grant funding, The DPI proposes to expand online AP course offerings to rural and low-income LEAs and to offer regional professional development sessions for secondary teachers to expand their capacity to offer AP courses in their high schools.

Program Structure and Student Support

13. Provide tiered service delivery models to reflect multiple levels of differentiation. Many LEAs have developed tiers of differentiated services for students based on their skills, abilities and unique learning needs. These tiers typically include enrichment and/or differentiation in general education classes, separate services provided by AIG teachers, and grade level acceleration. Each tier should have specific identification criteria and service delivery characteristics, with the services provided for students at each tier clearly supported in each student's Differentiated Education Plan (DEP). Movement of students across tiers should be encouraged and monitored, and the DEPs appropriately revised to maximize student achievement and movement into more challenging educational offerings, especially at the secondary level.

14. Add "High Potential" as a component to the State's annual headcount to show the number of minority students with potential for being considered for AIG services. Specific screening, identification, and placement criteria; a well-defined curriculum that aligns with placement criteria; and a strong instructional program should exist to help nurture and support students. The intent of helping minority students move into higher levels of differentiation and advanced classes and, when appropriate, be recognized as AIG students should be explicit. Annual monitoring should occur to indicate the success of student movement into higher levels of differentiation.

15. Prepare and support minority students in advanced courses and programs from Kindergarten through 12th grade. Some schools and LEAs cited various efforts to support minority students as they entered and pursued advanced courses. All districts are encouraged to include support strategies in their schools and programs. Addressing the social/emotional needs of minority students as they move into more advanced courses is particularly critical. All LEAs should provide for such support in their AIG programs and advanced courses. Some strategies noted in LEAs visited by DPI staff include:

a) Clustering students together in the same class for peer support when only a few minority students enroll in an advanced course.
b) Pacesetter classes, which serve as "Pre-AP" courses in English, mathematics, and Spanish. These courses are based on rigorous standards and are supported by intensive professional development for the teachers who teach them.
c) AVID or other formal program structures that provide systematic support for minority and/or other students who are entering rigorous programs for the first time.

Rigor in All Programs

16. Broaden minority exposure to advanced curriculum at the elementary and middle school levels, regardless of AIG identification. Schools should eliminate tracking and increase the rigor in all course offerings at the elementary and middle school levels. Remove courses that are inadequately challenging from the school curriculum altogether. Students needing additional help in making the transition to more challenging curricula could be aided by the development of intensive Saturday and/or Summer Academies, support classes, mentoring and other similar strategies.

17. Enhance minority students' educational experiences by (1) raising the degree of difficulty of Honors courses to approximate the challenge of AP courses and (2) redouble efforts to encourage minority students in Honors courses to enroll in AP courses. Minimizing avenues toward choosing or steering minority students toward "easier" classes should be an objective.

18. Establish increased rigor and standards for Honors courses. This study supports the current DPI initiative for all schools to establish guidelines for increased rigor and standards for all Honors courses.

19. Retain or increase program rigor of AIG services; prepare students for more rigor. The outcome of any efforts to increase minority representation in AIG and advanced courses should **not** include reduced rigor. In fact, increased focus and rigor in existing programs and services for some systems is currently needed. The inclusion of minority students should not come at the expense of program quality. At the same time, many low-income and minority students who show potential but may not currently meet identification criteria may need to be "groomed" for programs by enhanced differentiation and accelerated instruction. The DPI should consider the development of guidelines that provide standards for LEAs as to the nature of each level of service (see Recommendation #13): what is included, the minimal level of rigor, etc., to better ensure that these levels are not just diffused enrichment.

Student Motivation

20. Explore rewards for high academic performance in challenging courses. Individual rewards should be coupled with rewards for teams of students, following the strategy employed by Moses' Algebra Project and other university-based summer programs. This would merge cooperation and competition. This "cooperative learning" model is gaining increasing currency and is worth exploring.

21. Attend to the extracurricular activities that create time pressures and draw students away from rigorous courses. Examples might include adjusting practices for interscholastic sports teams and/or making certain that no interscholastic sports events are scheduled to start after a certain time on school nights. Carefully monitored after-school study halls with peer tutor support should be available, especially for students whose practices do not begin immediately when the school day ends. However, other research (e.g., Finn, 1989; Holland & Andre, 1987) suggests that extracurricular activities often help keep low-achieving students in school. So helping students to balance rigorous coursework with non-academic interests is important.

22. Explore alternative scheduling structures to eliminate or reduce course conflicts. Based on the survey data collected for this study, the second-most common reason given by high schools for why qualified students choose not to enroll in advanced courses was that those courses conflicted with other courses they were taking. Schools such as Ashbrook High School in Gaston County (see Section IX) may serve as models for how scheduling can be manipulated to eliminate this particular administrative barrier.

Data/Information

23. Consider the feasibility of collecting additional state-level data that might assist in monitoring the success of **all** students and conducting related studies. Facilitating change requires good information. Additional data for individual students in the state databases that would be helpful include course grades and parental background information (e.g. occupation, level of education). Income would be desirable (although more controversial); but it would help researchers to better sort between race and class effects, for example. Improved capacity to follow students longitudinally is important so that it is possible, for example, to determine what courses a student who was AIG-identified in third-grade subsequently takes in high school. The NC WISE (NC Window of Information for Student Education) student database currently under development and due for implementation in a few years should make this latter recommendation possible.

24. Locate LEAs and/or schools with strong minority representation in more challenging curricula and study them for lessons that can be applied to others. This "effective schools" study approach may add to the findings of these studies conducted for this report and provide strategies for other LEAs and schools to emulate.

Final Note

Article 9B has provided the opportunity for LEAs to create innovative, progressive programs that are shifting from the traditional identification procedures using standardized cognitive and achievement tests that have been the norm for the majority of the programs across the nation to one where giftedness is perceived as having multiple forms, and is developmental and process oriented (Maker, 1996). For this emerging paradigm shift to occur and for the many initiatives underway in all AIG programs across the state, time is a crucial element in allowing these changes to be fully implemented and in determining their ultimate impact. The state must

maintain support for these efforts for a sufficient period of time in order to assess properly the results of these changes. Diligent monitoring is essential to insure that minority students are being offered the opportunities to be challenged and are moving into levels of AIG program differentiation.

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Appendix A

Table 1A: High School AP Course Regression Results

AP Biology	Mean	Standard Deviation	Standardized Coefficient Estimate	t-statistic
Disparity Index	.364	.433	-	-
ABCs Performance Composite	62.32	10.32	-.136	-1.202
% of students eligible for free/reduced lunch	23.90	14.01	-.030	-.237
Average daily membership	1178.09	442.72	-.053	-.611
% of students who are minority	31.14	21.08	.044	.317

* - variable is statistically significantly related to Disparity Index.
Note: Analysis based on data from 189 high schools.

AP Calculus	Mean	Standard Deviation	Standardized Coefficient Estimate	t-statistic
Disparity Index	.380	.953	-	-
ABCs Performance Composite	61.70	10.81	-.198	-2.036
% of students eligible for free/reduced lunch	25.80	14.93	.160	1.54
Average daily membership	1041.31	433.40	.060	.967
% of students who are minority	31.36	22.74	-.281*	-2.36

* - variable is statistically significantly related to Disparity Index.
Note: Analysis based on data from 272 high schools.

AP English	Mean	Standard Deviation	Standardized Coefficient Estimate	t-statistic
Disparity Index	.378	.428	-	-
ABCs Performance Composite	62.01	10.30	-.314*	-3.46
% of students eligible for free/reduced lunch	25.03	13.75	-.131	-1.28
Average daily membership	1044.21	431.04	-.024	-.035
% of students who are minority	31.06	21.64	-.088	-.078

* - variable is statistically significantly related to Disparity Index.
Note: Analysis based on data from 270 high schools.

AP History	Mean	Standard Deviation	Standardized Coefficient Estimate	t-statistic
Disparity Index	.319	.309	-	-
ABCs Performance Composite	62.27	10.78	-.281*	-2.91
% of students eligible for free/reduced lunch	24.41	13.90	-.157	-1.54
Average daily membership	1086.28	438.52	-.038	-0.54
% of students who are minority	30.24	22.01	.260*	2.34

* - variable is statistically significantly related to Disparity Index.
Note: Analysis based on data from 236 high schools.

Table 2A. High School Honors Courses Regressions Results

Honors Biology	Mean	Standard Deviation	Standardized Coefficient Estimate	t-statistic
Disparity Index	.709	.912	-	-
ABCs Performance Composite	61.51	11.89	-.345*	-1.94
% of students eligible for free/reduced lunch	27.75	15.32	.088	0.45
Average daily membership	1040.26	418.23	.038	.033
% of students who are minority	34.01	24.03	-.457*	-2.09

* - variable is statistically significantly related to Disparity Index.
Note: Analysis based on data from 108 high schools.

Honors English	Mean	Standard Deviation	Standardized Coefficient Estimate	t-statistic
Disparity Index	.544	.338	-	-
ABCs Performance Composite	61.04	11.36	-.286*	-3.17
% of students eligible for free/reduced lunch	26.62	15.86	.007	0.07
Average daily membership	1003.37	439.99	.106	1.70
% of students who are minority	32.61	23.36	.068	0.63

* - variable is statistically significantly related to Disparity Index.
Note: Analysis based on data from 304 high schools.

Honors History	Mean	Standard Deviation	Standardized Coefficient Estimate	t-statistic
Disparity Index	.537	.280	-	-
ABCs Performance Composite	60.88	11.23	-.298*	-3.16
% of students eligible for free/reduced lunch	26.24	15.39	-.179	-1.74
Average daily membership	1071.42	434.00	.038	0.57
% of students who are minority	33.54	23.27	.307*	2.69

* - variable is statistically significantly related to Disparity Index.
Note: Analysis based on data from 241 high schools.

Table 3A. Middle School and Elementary AIG/Honors Courses Regression Results

Middle School Language Arts (AIG/Honors)	Mean	Standard Deviation	Standardized Coefficient Estimate	t-statistic
% minority in Course	19.65	20.75	-	-
ABCs Performance Composite	76.03	9.38	-.108	-1.38
% of students eligible for free/reduced lunch	42.35	17.57	-.071	-.809
Average daily membership	729.92	245.23	.061	1.06
% of students who are minority	35.64	24.15	.723*	9.21

- variable is statistically significantly related to Percent Minority in Course.
Note: Analysis based on data from 153 middle schools.

Middle School Math (AIG/Honors)	Mean	Standard Deviation	Standardized Coefficient Estimate	t-statistic
% minority in Course	20.31	22.24	-	-
ABCs Performance Composite	77.98	8.70	.02	.27
% of students eligible for free/reduced lunch	42.46	18.47	-.05	-.50
Average daily membership	703.29	264.13	-.08	-1.18
% of students who are minority	35.61	24.94	.86*	9.28

* - variable is statistically significantly related to Percent Minority in Course.
Note: Analysis based on data from 94 middle schools.

Elementary Language Arts (AIG)	Mean	Standard Deviation	Standardized Coefficient Estimate	t-statistic
% minority in Course	16.56	23.98	-	-
ABCs Performance Composite	74.05	9.07	-.14	-1.40
% of students eligible for free/reduced lunch	47.96	19.21	.03	.27
Average daily membership	538.64	203.34	-.11	-1.38
% of students who are minority	37.12	27.83	.62*	5.72

- variable is statistically significantly related to Percent Minority in Course.
Note: Analysis based on data from 99 elementary schools.

Elementary Math (AIG)	Mean	Standard Deviation	Standardized Coefficient Estimate	t-statistic
% minority in Course	14.65	23.67	-	-
ABCs Performance Composite	75.52	8.70	.07	.61
% of students eligible for free/reduced lunch	45.67	18.26	.25	1.89
Average daily membership	559.64	206.03	-.02	-.27
% of students who are minority	36.92	26.78	.61*	5.38

* - variable is statistically significantly related to Percent Minority in Course.
Note: Analysis based on data from 73 elementary schools.

Elementary Combined Language Arts/Math (AIG)	Mean	Standard Deviation	Standardized Coefficient Estimate	t-statistic
% minority in Course	17.88	24.36	-	-
ABCs Performance Composite	77.79	8.70	-.20	-1.52
% of students eligible for free/reduced lunch	45.81	21.10	-.23	-1.66
Average daily membership	510.64	216.32	-.09	-.83
% of students who are minority	33.62	24.18	.54*	4.09

* - variable is statistically significantly related to Percent Minority in Course.
Note: Analysis based on data from 89 elementary schools.

Thinking Skills and Key Concepts (TS) Program
Researchers: Sandra Parks and Howard Black
Overview Prepared by Margaret Gayle, Project Bright IDEA Director

Purpose of Thinking Skills (TS)
The Thinking Skills Programs, (Pre-K-5) are built on developing the analysis skills: describe, define; compare and contrast; classify; sequence; and parts to the whole. A major component that sets this program apart from other thinking programs is the focus on teaching mental models that are critical to academic success as they advance through grade levels. The main purpose for selecting this program for Project Bright IDEA to nurture the potential in underrepresented populations was the evidence that was gathered by Miami-Dade Schools through their implementation of Parks and Black's Program.

The evidence included: 1) student achievement gains; 2) teacher, student and parent satisfaction; and 3) the knowledge and advances that the children made in academic vocabulary development and geometry. Bright IDEA evidence included significant success by all students on the *NC Literacy and Math Assessments* during Project Bright IDEA 1: a pilot program that was implemented in 2001-2004. Based on the pilot, the Javits Award was granted to study how to "scale up" the program across a larger population of students. After three years in Project Bright IDEA 2, teachers reported that the Thinking Skills Program is one of the most important set of skills and processes that helped make Project Bright IDEA successful.

When the Department of Public Instruction was searching for a Thinking Skills Program as part of a State Nurturing Program, the recommendation was made to look at the model that Miami-Dade and Palm Beach Schools were using and to evaluate their results. After reviewing the literature on other programs, TS was selected because of the achievement results in Florida Schools, the developmental nature of the program and the competence and quality of the authors and the respect for their work in the field of Critical Thinking Researchers.

Thinking Skills and Key Concepts for Nurturing Potential Goals:
1. Promotes foundational and advanced k-2 cognitive skills and mental models for acquisition of the Standards in the North Carolina Course of Study.
2. Builds a large, universal academic vocabulary of English usage across all the disciplines. (TS=2000 universal words; most programs =1000 words)
3. Develops and produces descriptive writing paragraphs by end of Kindergarten because of the focus on speaking and writing in complete sentences.
4. Teaches learners *Piaget's Theory* to proceed from the concrete to semi-concrete to abstract verbal form.
5. Builds students' mental capacity, competence and confidence in taking assessments through learning mental models.
6. Provides success for all learners, including ESL and other Exceptionalities.

Skills and Processes
The six cognitive skills outlined in the program are research-based on the relevance and prevalence in academic disciplines and found on Standardized Tests. These analysis skills are required in all content areas and are all aligned with the Standards in the North Carolina Course of Study and other State Standards.

Major Components
1. *Smart* Student Book Approach
Paper and pencil tasks alone do not offer the same cognitive benefit as combining thinking skills tasks in all forms—using pictures, manipulatives, and think-pair-share to immerse all students in practicing cognitive tasks. Young students learn best when going from the concrete form first with the then practicing the tasks in paper and pencil form and in discussion with a partner in a think, pair, share approach selecting the correct response as each sees it, explaining it in their own language to each other and supplying correctly the right choice to a question. These exercises together provide the rich language and contextual meaning for the students. As the teacher introduces content standards, students can provide a collection of responses through a rigorous discussion for each lesson as seen in examples of group responses from lessons.

The Thinking Skills Programs teaches a rigorous content lesson as children move beyond the Figural and Verbal activities. The lessons are integrated into local curriculum and pacing guides. The TS lessons should be taught when the teachers are introducing new content or reviewing standards. This program can be adapted to meet local initiatives and used as another high-level resource for teaching critical thinking.

In both figural and verbal strands, exercises are sequenced in the order that a developing child learns: cognition, evaluation and convergent production processes. The processes for all activities include: Select, Explain, Supply and Evaluate—all processes provide an excellent strategy for doing tasks and activities for any lesson.

2. Training Approach
The training can be conducted in a half-day session on each of the levels to help teachers and administrators understand how to use the Teacher Manuals and how to teach the lessons. The training that has been implemented, as a result of Project Bright IDEA 2, includes one half-day for teachers to understand the background and another half day on the demonstration of model lessons. This training requires that the teachers read and understand the Teacher's Manual and that they use the recommended methods of instruction for the students. This training does not take the place of follow-up classroom visits by mentors, principals and curriculum specialists to assist with support and additional training. Trainers and mentors from Bright IDEA 2 provide on-site classroom or school visits to assist teachers with strategies for task rotations and model lessons, when requested.

3. Individual Learning Needs
The TS materials, when used appropriately, provide the teacher with built-in high level content strategies for meeting the individual needs of all children, including those

identified as Exceptional Children. Some children will be able to move through the lessons quickly or may not need some of them at all. ESL children and those with learning disabilities or exceptionalities have been highly successful with BTS and in the pilot program--the gap was closed for these populations. The research underway with Bright IDEA 2 continues to show evidence that all children are highly successful with this program. Identified gifted children can move beyond these lessons into thinking skills infused into content using gifted methodologies. This program provides teachers with guidance on differentiating instruction for all children. For data on all populations from Project Bright IDEA, see https://aagc.ssri.duke.edu

All six thinking skills used through the TS Program should be infused in every subject and re-enforced through the common core and essential standards.

Summary
Thinking Skills is internationally recognized as superior in the field of cognitive-based critical thinking research. This program is one-of-a-kind program for Pre-K-2 children especially, even though it is a program for K-12 and materials are available for all grade levels. Project Bright IDEA 2, the Javits Research program is expanding the project across many districts based on principals, teachers and parents requesting it for all of their students as they expand beyond the cohort schools. Much of the evidence to support expanding across grade levels has been through observations and test scores, including high scores on the Cognitive Abilities Test (CoGAT) and the Iowa Test of Basic Skills. The program promotes strategies that correlate with the Cognitive Abilities Test (CoGAT), one of the criteria used for identifying gifted students.

Recommended Minimum Time Spent on Direct Instruction, Dialogue and Reflection:
Kindergarten – 20 minutes, 4 days a week
First Grade – 25 minutes, 4 days a week
Second through Fifth Grade – 30 minutes, 4 days a week
Infuse thinking skills in all subject areas.

For information on the authors, Sandra Parks and Howard Black or to get an in-depth view of the Instructional Design of the TS Program and specific instructions for teaching the program, see Thinking Skills and Key Concepts, Teacher Manuals and Student Books from Anastasia Books.

Anastasia Books
Contact Mary Ellen Kirby or Sandra Parks
PH: 904-827-0075

Margaret Gayle: meg43@duke.edu
919-801-2384

Bright IDEA 2
(Interest Development Early Abilities)

Gifted Intelligence Behaviors (GIB's)
Multicultural Picture Book List

K-2

Gifted Intelligence Behaviors

(Habits of Mind/Core Traits, Attributes and Behaviors of Gifted Students)

Thinking About Thinking/Metacognition - HOMs
(Reasoning/Memory - TABs)
Questioning and Posing Problems - HOM
(Problem Solving/Inquiry - TABs)
Finding Humor - HOM
(Humor - TABs)
Persisting - HOM
(Motivation - TAB)
Creating, Imaging & Innovating - HOM
(Imagination - TABs)
Taking Responsible Risks - HOM
(Problem Solving - TABs)
Thinking and Communicating With Clarity and Precision - HOM
(Communications -TABs)
Remaining Open to Continuous Learning-HOM
(Interest - TAB)
Listening With Understanding/Empathy - HOM
(Interpersonal/Intrapersonal/Insight - TABs)
Thinking Flexibly - HOM
(Reasoning/Problem Solving - TABs)
Applying Past Knowledge - HOM
(Insight - TABs)

Bright IDEA 2 (Interest Development Early Abilities)

Gifted Intelligence Behaviors (GIB's)
Multicultural Picture Book List
K-2

(Habits of Mind/Core Traits, Attributes and Behaviors of Gifted Students)

- **Thinking About Thinking/Metacognition** (Reasoning/Memory)

  New Year Be Coming! A Gullah Year by Katherine Boling
  Whale Snow by Debby Dahl Edwardson
  Rachel Carson: The Story of Rachel Carson by Amy Ehrlich
  Danitra Brown Leaves Town by Nikki Grimes
  Bluebonnet Girl by Michael Lind
  The Gold-Threaded Dress by Carolyn Marsden
  The Honest-to-Goodness Truth by Patricia C. McKissack
  Respecting Others by Robert Nelson
  The Hard Times Jar by Ethel Footman Smothers
  Grand Central Terminal: Gateway to New York City by Ed Stanley
  Old Turtle and the Broken Truth by Douglas Wood

- **Questioning and Posing Problems** (Problem Solving/Inquiry)

  Kumak's House by Michael Bania
  New Year Be Coming! A Gullah Year by Katherine Boling
  The Quiltmaker's Gift by Jeff Brumbeau and Gail de Marcken
  Deena's Lucky Penny by Barbara deRubertis
  Lulu Lemonade by Barbara deRubertis
  Danitra Brown Leaves Town by Nikki Grimes
  Everybody Works by Shelley and Ken Kreisler
  Harvesting Hope: The Story of Cesar Chavez by Kathleen Krull
  The Honest-to-Goodness Truth by Patricia C. McKissack
  Panda Bear, Panda Bear, what Do You See? by Bill Martin, Jr.
  Grand Central Terminal: Gateway to New York City by Ed Stanley
  Old Turtle and the Broken Truth by Douglas Wood

- **Finding Humor** (Humor)

  Kumak's House by Michael Bania

Manic Monkeys on Magnolia (Chapter Book) by Angela Johnson
The Barking Mouse by Antonio Sacre
Terrific Trickster Tales from Asia by Cathy Spagnoli
Coachroach Cooties (Chapter Book) by Lawrence Yep
The Magic Paintbrush (Chapter Book) by Lawrence Yep

- **Persisting (Motivation)**

The Littlest Matryshka by Corinne Demas Bliss
New Year Be Coming! A Gullah Year by Katherine Boling
The Quiltmaker's Gift by Jeff Brumbeau and Gail de Marcken
Lulu Lemonade by Barbara deRubertis
The Great Expedition of Lewis and Clark by Private Reubin Field, Member of the Corps of Discovery by Judith Edwards
Rachel Carson: The Story of Rachel Carson by Amy Ehrlich
Everybody Works by Shelley and Ken Kreisler
Harvesting Hope: The Story of Cesar Chavez by Kathleen Krull
The Man Who Made Time Travel by Kathryn Lasky
Bluebonnet Girl by Michael Lind
Molasses Man by Kathy L. May
The Blind Hunter by Kristine Rodanas
Moon's Cloud Blanket by Rose Ann St. Romain
Grand Central Terminal: Gateway to New York City by Ed Stanley

- **Creating, Imaging & Innovating** (Imagination)

The Littlest Matryshka by Corinne Demas Bliss
New Year Be Coming! A Gullah Year by Katherine Boling
The Quilt Maker's Gift by Jeff Brumbeau and Gail de Marcken
The Quilt Maker's Journey by Jeff Brumbeau and Gail de Marcken
Beautiful Blackbird by Ashley Bryan
Leonardo: Beautiful Dreamer by Robert Byrd
Lulu Lemonade by Barbara deRubertis
Feliz Navidad by David Diaz
Las Posadas: An Hispanic Christmas Celebration by Diane Hoyt-Goldsmith
Everybody Works by Shelley and Ken Kreisler
The Man Who Made Time Travel by Kathryn Lasky
Bluebonnet Girl by Michael Lind
Kogi's Mysterious Journey by Elizabeth Partridge
The Blind Hunter by Kristine Rodanas
Moon's Cloud Blanket by Rose Ann St. Romain
Grand Central Terminal: Gateway to New York City by Ed Stanley
Monkey for Sale by Sanna Stanley
Recycle Every Day! by Nancy Elizabeth Wallace
The Magic Paintbrush (Chapter Book) by Lawrence Yep

- **Taking Responsible Risks** (Problem Solving)

  The Quilt Maker's Gift by Jeff Brumbeau and Gail de Marcken
  The Great Expedition of Lewis and Clark by Private Reubin Field, Member of the Corps of Discovery by Judith Edwards
  Under the Quilt of the Night by Deborah Hopkinson
  Harvesting Hope: The Story of Cesar Chavez by Kathleen Krull
  The Honest-to-Goodness Truth by Patricia C. McKissack
  The Barking Mouse by Antonio Sacre
  Coming to America: A Muslim Family Story by Bernard Wolf

- **Thinking Flexibly** (Reasoning/Problem Solving)

  Beautiful Blackbird by Ashley Bryan
  Send It! By Don Carter
  Deena's Lucky Penny by Barbara deRubertis
  Whale Snow by Debby Dahl Edwardson
  Under the Quilt of the Night by Deborah Hopkinson
  The Gold-Threaded Dress by Carolyn Marsden
  Panda Bear, Panda Bear, What Do You See? by Bill Martin, Jr.
  Respecting Others by Robert Nelson
  The Hard Times Jar by Ethel Footman Smothers
  Terrific Trickster Tales from Asia by Cathy Spagnoli
  Monkey for Sale by Sanna Stanley
  Recycle Every Day! By Nancy Elizabeth Wallace
  Coachroach Cooties (Chapter Book) by Lawrence Yep
  The Magic Paintbrush (Chapter Book) by Lawrence Yep

- **Thinking and Communicating With Clarity and Precision** (Communications)

  Send It! By Don Carter
  Grandfather Counts by Andrea Cheng
  The Long Wait by Annie Cobb
  The Quiltmaker's Gift by Jeff Brumbeau and Gail de Marcken
  Feliz Navidad by David Diaz
  Beautiful Blackbird by Ashley Bryan
  Leonardo: Beautiful Dreamer by Robert Byrd
  Las Posadas: An Hispanic Christmas Celebration by Diane Hoyt-Goldsmith
  The Hard Times Jar by Ethel Footman Smothers

- **Remaining Open to Continuous Learning** (Interest)

The Quilt Maker's Gift by Jeff Brumbeau and Gail de Marcken
Leonardo: Beautiful Dreamer by Robert Byrd
Grandfather Counts by Andrea Cheng
Deena's Lucky Penny by Barbara deRubertis
It's Back to School We Go! Day Stories From Around the World by Jan D. Ellis
The Great Expedition of Lewis and Clark by Private Reubin Field, Member of the Corps of Discovery by Judith Edwards
Las Posadas: An Hispanic Christmas Celebration by Diane Hoyt-Goldsmith
Manic Monkeys on Magnolia (Chapter Book) by Angela Johnson
We All Went on a Safari: A Counting Journey Through Tanzania by Laurie Krebs
Bluebonnet Girl by Michael Lind
Respecting Others by Robert Nelson
The Blind Hunter by Kristina Rodanas
Coming to America: A Muslim Family Story by Bernard Wolf

- **Listening With Understanding/Empathy**
  (Interpersonal/Intrapersonal/Insight)

The Quilt Maker's Gift by Jeff Brumbeau and Gail de Marcken
Beautiful Blackbird by Ashley Bryan
It's Back to School We Go! Day Stories From Around the World by Jan D. Ellis
The Gold-Threaded Dress by Carolyn Marsden
Panda Bear, Panda Bear, what Do You See? by Bill Martin, Jr.
Goin Someplace by Patricia C. McKissack
Kogi's Mysterious Journey by Elizabeth Partridge
The Blind Hunter by Kristina Rodanas
Coachroach Cooties (Chapter Book) by Lawrence Yep

- **Applying Past Knowledge to New Situations**
  (Insight)

The Night of Las Posadas by Tomie DePaola
The Great Expedition of Lewis and Clark by Private Reubin Field, Member of the Corps of Discovery by Judith Edwards
The Man Who Made Time Travel by Kathryn Lasky
Molasses Man by Kathy L. May
Kogi's Mysterious Journey by Elizabeth Partridge
Recycle Every Day! By Nancy Elizabeth Wallace
Coming to America: A Muslim Family Story by Bernard Wolf
Old Turtle and the Broken Truth by Douglas Wood

Bright IDEA 2 (Interest Development Early Abilities)

Multicultural Picture Book List
K-2

Additional Intelligent Behaviors of Successful People
Costa/Kallick

Addressing IBs Through Social and Emotional Needs

- **Managing Impulsivity – HOM**

  The Long Wait by Annie Cobb
  Under the Quilt of the Night by Deborah Hopkinson
  The Honest-to-Goodness Truth by Patricia C. McKissack
  Monkey for Sale by Sanna Stanley

- **Striving for Accuracy and Precision – HOM**

  Grandfather Counts by Andrea Cheng
  The Long Wait by Annie Cobb
  The Great Expedition of Lewis and Clark by Private Reubin Field, Member of the Corps of Discovery by Judith Edwards
  The Night of Las Posadas by Tomie DePaola
  Kogi's Mysterious Journey by Elizabeth Partridge

- **Responding with Wonderment and Awe – HOM**

  The Night of Las Posadas by Tomie DePaola
  Rachel Carson: The Story of Rachel Carson by Amy Ehrlich
  Feliz Navidad by David Diaz
  We All Went on a Safari: A Counting Journey Through Tanzania by Laurie Krebs
  The Blind Hunter by Kristina Rodanas

- **Thinking Interdependently – HOM**

  Grandfather Counts by Andrea Chen
  The Long Wait by Annie Cobb
  Recycle Every Day! by Nancy Elizabeth Wallace

Addressing the IBs Through Multiple Intelligences

- **Gathering Data Through All Senses**

  The Blind Hunter by Kristina Rodanas
  Recycle Every Day! by Nancy Elizabeth Wallace

NC K-2 Assessments – FY 2003-2004

Assessments	Total Points	
K Literacy:		
Letter Recognition	52	
Letter Sounds	26	
Book & Print Awareness	20	
Sight Words	50	
Total		148
K Writing		0-3
K - Reading - Running Records - End of K expected levels		3/4
K Math		24
1st Writing		0-4
1st Reading - Running Records - End of 1st expected levels		15/16
1st Math		28
2nd Writing		0-4
2nd Running Records - End of 2nd expected levels		23/24
2nd Math		52

FTAP's: Frasier Talent Assessment Profile
Each student in Project Bright IDEA for 2004 has an FTAP profile showing gains between pre and post-assessments. Intelligent Behaviors are integrated into multi-cultural literature units. Each class is taught a unit in a pre-test and post-test setting. Each student has a profile on at least two Intelligent Behaviors based on teacher observations and activities from the literature units.

Assessment Timeline - Gifted Intelligent Behaviors (GIBs) – Multicultural Literature Units – Attachment I
Project Bright IDEA 2 – A Javits Research Program funded by the US Department of Education

All Grade Levels focus on these three plus the grade level GIBs:

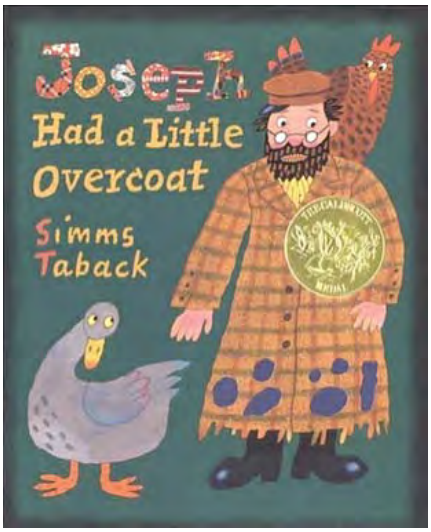
- Thinking About Thinking/Meta-cognition (Reasoning and Memory-TABs)
- Questioning and Posing Problems (Problem Solving/Inquiry-TABs)
- Finding Humor (TAB)

Grade	Literature Unit – Pre Assessment	Date for Pre by	Literature Unit – Post Assessment	Date for Post by	How to Report
K	***Jingle Dancer*** **Persistence** (Motivation-TAB) **Creating, Imagining & Innovating** (Imagination-TAB)	November 15	***Down the Road*** **Persistence** (Motivation-TAB) **Creating, Imagining & Innovating** (Imagination-TAB)	**May 1**	Individual Rubrics Electronically & on a CD Rom to State by January 1 & June 1
First	***Joseph Had a Little Overcoat*** **Taking Responsible Risks** (Problem-Solving-TAB) **Thinking Flexibly** (Reasoning-Solving-TABs) **Thinking and Communicating with Clarity and Precision** (Communication-TAB)	**November 15**	***Sophie's Masterpiece*** **Taking Responsible Risks** (Problem Solving-TAB) **Thinking Flexibly** (Reasoning-Solving-TABs) **Thinking and Communicating with Clarity and Precision** (Communication-TAB)	**May 1**	**Individual Rubrics** **Electronically & on a CD Rom to state by January 1 and June 1**
Second	**Yonder Mountain** **Remaining Open to Continuous Learning** (Interest – TAB) **Listening with Understanding and Empathy** (Interpersonal, Intrapersonal and Insight -TABs) **Applying Past Knowledge to New Situations** (Insight-TAB)	**November 15**	**Caged Birds of Phnom Penh** **Remaining Open to Continuous Learning** (Interest – TAB) **Listening with Understanding and Empathy** (Interpersonal, Intrapersonal and Insight - TABs) **Applying Past Knowledge to New Situations** (Insight-TAB)	**May 1**	**Individual Rubrics** **Electronically and & on a CD Rom to state by January 1 and June 1**

HOM – Selected Habits of Mind by Art Costa and Bena Kallick TABs – Traits, Attributes and Behaviors by Mary Frasier

Project Bright IDEA 2: Interest Development Early Abilities

A Jacob Javits Gifted Education Program
Funded by the US Department of Education
2004-2009



Concept: Change

Topic: Conservation

Revised by:
Kim Jacobs, Mary Carrington, Laura Walden, Heather Pelletier
August 2009

Grade Level: First

North Carolina Department of Public Instruction
Exceptional Children Division

Academically or Intellectually Gifted Program

The American Association for Gifted Children at Duke University

Template Revised April 29, 2009
Unit Revised August 2009

NC Standard Course of Study

- This interdisciplinary unit is designed to teach clustering of the content standards that promote students' deeper understandings of conceptual, procedural, and metacognitive knowledge within sophisticated, complex, and developmentally appropriate multicultural literature rather than the coverage of standards being taught in isolation. Therefore, students are able to make connections, to think critically and to problem solve in authentic environments across disciplines and grade levels.
- Teachers are encouraged to extrapolate content standards based on their instructional, curriculum, and assessment focus to differentiate and meet the needs of their students within this interdisciplinary unit.
- Bolded content objectives are assessed in the performance-based task rotations.

Kindergarten Literacy

1.01 Develop book and print awareness:
2.01 Demonstrate sense of story (e.g., beginning, middle, end, characters, details and setting).
2.04 Formulate questions that a text might answer before beginning to read (e.g., what will happen in this story, who might this be, where do you think this happens
2.09 Identify the sequence of events in a story.
3.01 Connect information and events in text to experience.
3.02 Discuss concepts and information in a text to clarify and extend knowledge.
3.03 Associate target words with prior knowledge and explore an author's choice of words.
3.04 Use speaking and listening skills and media to connect experiences and text: listening to and re-visiting stories. discussing, illustrating, and dramatizing stories. discovering relationships.
4.01 Use new vocabulary in own speech and writing.
4.02 Use words that name and words that tell action in a variety of simple texts (e.g., oral retelling, written stories, lists, journal entries of personal experiences).
4.03 Use words that describe color, size, and location in a variety of texts: e.g., oral retelling, written stories, lists, journal entries of personal experiences.
4.04 Maintain conversation and discussions:
4.06 Write and/or participate in writing behaviors by using authors' models of language.

First Grade Literacy

2.02 Demonstrate familiarity with a variety of texts (storybooks, short chapter books, newspapers, telephone books, and everyday print such as signs and labels, poems, word plays using alliteration and rhyme, skits and short plays).
2.03 Read and comprehend both fiction and nonfiction text appropriate for grade one using: prior knowledge. Summary, questions, graphic organizers.
2.04 Use preparation strategies to anticipate vocabulary of a text and to connect prior knowledge and experiences to a new text.
2.05 Predict and explain what will happen next in stories.
2.06 Self-monitor comprehension by using one or two strategies (questions, retelling, summarizing).
2.07 Respond and elaborate in answering what, when, where, and how questions.
2.08 Discuss and explain response to how, why, and what if questions in sharing narrative and expository texts.
2.09 Read and understand simple written instructions..

3.01 Elaborate on how information and events connect to life experiences.
3.02 Recognize and relate similar vocabulary use and concepts across experiences with texts.
3.03 **Discuss unfamiliar oral and/or written vocabulary after listening to or reading texts.**
3.04 Share personal experiences and responses to experiences with text: publishing non-print texts, discussing interpretations, recording personal responses.
4.04 Extend skills in using oral and written language: clarifying purposes for engaging in communication, using clear and precise language to paraphrase messages, engaging in more extended oral discussions, producing written products, completing graphic organizers.
4.05 Write and/or participate in writing by using an author's model of language and extending the model (e.g., writing different ending for a story, composing an innovation of a poem).
4.06 **Compose a variety of products (e.g., stories, journal entries, letters, response logs, simple poems, oral retellings) using a writing process.**
5. The learner will apply grammar and language conventions to communicate effectively.

Second Grade Literacy

2.01 Read and comprehend text (fiction, nonfiction, poetry, and drama) appropriate for grade two by: determining purpose (reader's and author's), making predictions , asking questions, locating information for specific reasons/purposes, recognizing and applying text structure, comprehending and examining author's decisions and word choice, determining fact and opinion, recognizing and comprehending figurative language, making inferences and draw conclusions.
2.02 Use text for a variety of functions, including literary, informational, and practical.
2.04 Pose possible how, why, and what if questions to understand and/or interpret text.
2.06 Recall main idea, facts and details from a text.
2.07 Discuss similarities/differences in events, characters and concepts within and across texts
3.01 Use personal experiences and knowledge to interpret written and oral messages.
3.02 **Connect/ compare information within/ across selections (fiction, nonfiction, poetry, drama) to experience and knowledge.**
3.03 **Explain and describe new concepts and information in own words (e.g., plot, setting, major events, characters, author's message, connections, topic, key vocabulary, key concepts, text features).**
3.04 Increase oral and written vocabulary by listening, discussing, and composing texts when responding to literature that is read and heard. (e.g., read aloud by teacher, literature circles, interest groups, book clubs)
4.01 Begin to use formal language and/or literary language in place of oral language patterns, as appropriate.5. The learner will apply grammar and language conventions to communicate effectively.
4.04 Use oral communication to identify, organize, and analyze information.
4.05 Respond appropriately when participating in group discourse by adapting language and communication behaviors to the situation to accomplish a specific purpose.
4.06 **Plan and make judgments about what to include in written products (e.g., narratives of personal experiences, creative stories, skits based on familiar stories and/or experiences).**
4.08 Write structured informative presentations and narratives when given help with organization.
4.09 **Use media and technology to enhance the presentation of information to an audience for a specific purpose.**

Kindergarten Social Studies

1.01 Describe how individuals are unique and valued.
1.02 Identify different groups to which individuals belong.
1.03 Examine diverse family structures around the world.
1.04 Recognize that families and groups have similarities and differences.
1.05 Compare and contrast customs of families in communities around the world.
2.01 Exhibit citizenship traits such as integrity, responsibility, and trustworthiness in the classroom, school, and other social environments.
3.01 Observe and describe how individuals and families grow and change.
3.02 Evaluate how the lives of individuals and families of the past are different from what they are today.
4.01 Explore how families express their cultures through celebrations, rituals, and traditions.
4.02 Identify religious and secular symbols associated with famous people, holidays, and specials days of diverse cultures.
4.03 State reasons for observing special, religious, and secular holidays of diverse cultures.
6.01 Distinguish between wants and needs.
6.02 Examine the concept of scarcity and how it influences the economy.
6.03 Identify examples of how families and communities work together to meet their basic needs and wants.
6.04 Give examples of how money is used within the communities, such as spending and savings.
6.05 Explore goods and services provided in communities.
7.01 Identify different types of media and forms of communication.
7.02 Explore modes of transportation at home and around the world.

First Grade Social Studies

1.02 Identify various groups to which individuals and families belong.
1.04 Explore the benefits of diversity in the United States.
3.01 Describe personal and family changes, past and present.
3.02 Describe past and present changes within the local community.
3.03 Compare and contrast past and present changes within the local community and communities around the world.
4.01 Recognize and describe religious and secular symbols/celebrations associated with special days of diverse cultures.
4.02 Explore and cite reasons for observing special days that recognize celebrated individuals of diverse cultures.
4.03 Recognize and describe the historical events associated with national holidays.
5.05 Demonstrate responsibility for the care and management of the environment within the school and community.
6.01 Examine wants and needs and identify choices people make to satisfy wants and needs with limited resources.
6.02 Describe how people of different cultures work to earn income in order to satisfy wants and needs.
6.06 Identify the uses of money by individuals which include saving and spending.
6.07 Recognize that all families produce and consume goods and services.
7.01 Compare and contrast the use of media and forms of communication at home and in other social environments.
7.02 Describe how communication and transportation link communities.
7.03 Use the computer and other technological tools to gather, organize, and display data.

Second Grade Social Studies

1.01 Identify and describe attributes of responsible citizenship.
1.02 Demonstrate responsible citizenship in the school, community, and other social environments.
1.03 Analyze and evaluate the effects of responsible citizenship in the school, community, and other social environments.
1.04 Identify responsible courses of action in given situations and assess the consequences of irresponsible behavior.
3.01 Compare similarities and differences between oneself and others.
3.02 Describe similarities and differences among families in different communities.
3.03 Compare similarities and differences among cultures in various communities.
3.04 Identify multiple roles performed by individuals in their families and communities.
4.02 Analyze environmental issues, past and present, and determine their impact on different cultures.
6.01 Identify natural resources and cite ways people conserve and replenish natural resources.
6.02 Cite ways people modify the physical environment to meet their needs and explain the consequences.
7.01 Distinguish between producers and consumers and identify ways people are both producers and consumers.
7.02 Distinguish between goods produced and services provided in communities.
7.03 Describe different types of employment and ways people earn an income.
7.04 Identify the sources and use of revenue in the community.
7.05 Analyze the changing uses of a community's economic resources and predict future changes.
8.01 Identify uses of technology in communities.
8.02 Explain how technology has affected the world in which we live.
8.03 Interpret data on charts and graphs and make predictions.

Kindergarten Math

1.01 Develop number sense for whole numbers through 30.
a. **Connect model, number word (orally), and number, using a variety of representations.**
b. **Count objects in a set.**
c. Read and write numerals.
1.03 Solve problems and share solutions to problems in small groups.
2.01 Compare attributes of two objects using appropriate vocabulary (color, weight, height, width, length, texture).
3.02 Compare geometric shapes (identify likenesses and differences).
4.01 Collect and organize data as a group activity.
4.02 Display and describe data with concrete and pictorial graphs as a group activity.
5.01 Sort and classify objects by one attribute.
5.02 Create and extend patterns with actions, words, and objects.

First Grade Math

1.01 Develop number sense for whole numbers through 99.
a. **Connect the model, number word, and number using a variety of representations.**
b. **Use efficient strategies to count the number of objects in a set.**
c. Read and write numbers.
1.02 Use groupings of 2's, 5's, and 10's with models and pictures to count collections of objects.
2.01 For given objects:

a. Select an attribute (length, capacity, mass) to measure (use non-standard units).
b. Develop strategies to estimate size.
c. Compare, using appropriate language, with respect to the attribute selected.

3.01 Identify, build, draw and name parallelograms, squares, trapezoids, and hexagons.
3.03 Compare and contrast geometric figures.
3.04 Solve problems involving spatial visualization.
4.01 Collect, organize, describe and display data using line plots and tallies.
5.01 Sort and classify objects by two attributes.
5.02 Use Venn diagrams to illustrate similarities and differences in two sets.
5.03 Create and extend patterns, identify the pattern unit, and translate into other forms.

Second Grade Math

1.01 Develop number sense for whole numbers through 999
a. Connect model, number word, and number using a variety of representations.
b. Read and write numbers.
e. Estimate

1.03 Create, model, and solve problems that involve addition, subtraction…
1.04 Develop fluency with multi-digit addition and subtraction through 999 using multiple strategies. a. Strategies for adding and subtracting numbers.
b. Estimation of sums and differences in appropriate situations.

1.05 Create and solve problems using strategies such as modeling, composing and decomposing quantities, using doubles, and making tens and hundreds
2.01 Estimate and measure using appropriate units.
a. Length (meters, centimeters, feet, inches, yards).

3.01 Combine simple figures to create a given shape.

4.01 Collect, organize, describe and display data using Venn diagrams (three sets) and pictographs where symbols represent multiple units (2's, 5's, and 10's).

5.01 Identify, describe, translate, and extend repeating and growing patterns.
5.02 Write addition and subtraction number sentences to represent a problem; use symbols to represent unknown quantities.

Kindergarten Science

Goal 1: The learner will make observations and build an understanding of similarities and differences in animals.

Goal 3: The learner will make observations and build an understanding of the properties of common objects.
Goal 4: The learner will use appropriate tools and measurements to increase their ability to describe their world.

First Grade Science

Goal 3: The learner will make observations and conduct investigations to build an understanding of the properties and relationship of objects.

Second Grade Science

Goal 3: The learner will observe and conduct investigations to build an understanding of changes in properties.
Goal 4: The learner will conduct investigations and use appropriate technology to build an understanding of the concepts of sound.

Unit Title:
The Conservation Challenge!
Joseph Had a Little Overcoat

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Quotation

"I think that our cooperative conservation approaches get people to sit down and grapple with problem solving."
Gale Norton

"You can always make something out of nothing."
Simms Taback

Universal Conceptual Lens:
Change

Telling the Story:

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Conservation is an essential 21st century global issue that is critical for students to begin cognitively exploring at an early age. In this unit, students are challenged to problem-solve collaboratively and reach solutions for improving conservation practices in their homes, schools, communities and beyond.

In Joseph Had a Little Overcoat, the anchor multi-cultural text, Simms Taback tells the tale of Joseph, a resourceful man with a worn-out overcoat. Joseph practices conservation and changes his overcoat into a jacket. He then reuses the jacket until it wears out. The delightful story illustrates the changes Joseph designs with the patterned cloth until only one button remains.

Students will appreciate and practice conservation measures as they engage in high-level tasks and discover that change can be positive or negative and generates additional change, and exploration may result in changes that will positively impact conservation and our environment.

Big Ideas Manifested

Topic –Conservation
Text – Joseph Had a Little Overcoat
Author –Simms Taback
Publisher/Date- Viking, 1999

Concepts (fit definition here)	**Themes**
Change **Exploration** Adaptation Patterns	**Conservation** **Resourcefulness** Recycling Re-using Economics Responsibility
Issues or Debates	**Problems or Challenges**
Conserving vs. Discarding Antiques vs. Garbage Saving vs. Spending Single vs. Married Pet vs. Farm Animal Email vs. "Slow" mail Garden grown vs. store bought	**How can we conserve and recycle to protect our environment?** What do you do with worn-out clothing or materials? How can you make something out of nothing? Population growth increases waste.
Processes	**Theories**
How to make something useful out of old items. **Creative clothing design** **The Recycling Process** The Writing Process	Re-using old or worn materials will help preserve our environment. It is resourceful to make something out of used items. Our resources are limited.
Paradoxes	**Assumptions or Perspectives**
You can make something out of nothing. The ease of a throw-away society is harming our world. "One man's trash is another man's treasure" "Out with the old, in with the new" "A stitch in time saves nine" "A penny saved is a penny earned." "Out of sight; out of mind"	**Most people want to re-use items to conserve and protect our earth.** Many people discard unwanted items and buy new. Old things lose value. Conservation will help preserve our natural earth/resources. "Everything in moderation." "A little dab will do you." "Absence makes the heart grow fonder."

Big Ideas Defined

Concepts	Themes
• An organizing idea or mental construct • A broad abstract idea or guiding principal • A design or plan • Can be something imagined	• A unifying idea or quality that is distinct and recurring • The subject of discussion or a course of study
Issues or Debates	**Problems or Challenges**
• A topic discussed in detail • A topic of general concern • A formal exchange of opinion • An organized public discussion or argument	• A difficult matter, situation or person • A question that needs to be solved, justified or explained • Demands on the intellect • A test of one's abilities
Processes	**Theories**
• Preparation for something through a series of steps or actions • A series of natural events that produce change • An established procedure aimed at somebody or something	• An abstract thought or contemplation • An idea or belief about something arrived at through speculation or conjecture • A body of rules, principles and techniques that apply to a particular subject, but distinct from actual practice
Paradoxes	**Assumptions or Perspectives**
• A contradictory or absurd statement, situation or proposition, but may at a deeper level, actually be true • An oxymoron "To lead the people, walk behind them." _____Lao-tzu	• Something believed to be true, without proof—or can be a starting point of a logical proof • An evaluation of a situation or facts from one person's point of view

Unit Title:	Universal Conceptual Lens:
The Conservation Challenge **Joseph Had a Little Overcoat**	**Change**

Overarching Generalizations:

- Change generates additional change.
- Change is inevitable.
- Change is necessary for growth.
- Change may be positive or negative.

Essential Questions:

How might conservation generate positive change?

How might exploration and adaptation create change in our environment?

What changes could we make in our society to promote conservation?

Anchor Multicultural Literature Selection(s):

Joseph Had a Little Overcoat, Simms Taback, 1999

Supporting Media/Resources: (see extended resource list in Appendix)

Recycle Everyday, Nancy Elizabeth Wallace, 2003
The Hard-Times Jar, Ethel Footman Smothers, 2003
A Chair For My Mother, Vera Williams, 1984
www.recyclezone.org
www.illuminations.nctm.org
www.abcteach.com/directory/clip_art/clothes
http://www.klezmerband.us/takealisten.aspx
http://www.hebrewsongs.com/yiddish.htm

Look and Listen for…

21st Century/ Gifted Intelligent Behaviors:
Thinking Flexibly, Creating, Imagining, and Innovating

Overarching Gifted Intelligent Behaviors (GIBs):
Metacognition, Questioning and Posing Problems, Finding Humor, Taking Responsible Risks, Thinking Flexibly, Thinking and Communicating with Clarity and Precision

Literature and GIB focus:
Creating, Imagining, and Innovating, Thinking Flexibly, Finding Humor, Persistence, Metacognition

GIB's within Student Learning Tasks:
Creating, Imagining, and Innovating, Thinking Flexibly, Thinking Interdependently, Posing Problems and Asking Questions, Metacognition, Finding Humor, Persistence, Taking Responsible Risks

Developmental Thinking Skills Focus: _*__ Describe __*_ Similarities & Differences
_*___ Sequence ___ Classify ___ Analogies

After explicitly teaching the developmental skills, these skills should be clustered in larger cognitive processes and infused throughout the unit.

See example in Appendix: Cognitive Scaffolding -Extension of Thinking Skills

Other:

Big Idea Focus (see p.3 and p.4):
Change

Other Universal Concepts:
Patterns, Exploration and Adaptation

More Complex Generalizations (Two or more universal concepts):

Exploration may result in change or adaptation to meet needs.
Conservation may create changes in patterns.

Directions for Teachers:

- **Display and discuss universal generalizations.**

- **Discuss topics and vocabulary needed to gain a deeper understanding of the generalizations.**

Suggested Big Ideas for Discussion (see p. 3 and p. 4):

- **Change**
- **Exploration**
- **Adaptation**
- **Patterns**

Essential Vocabulary for Discussion and Deep Understanding:

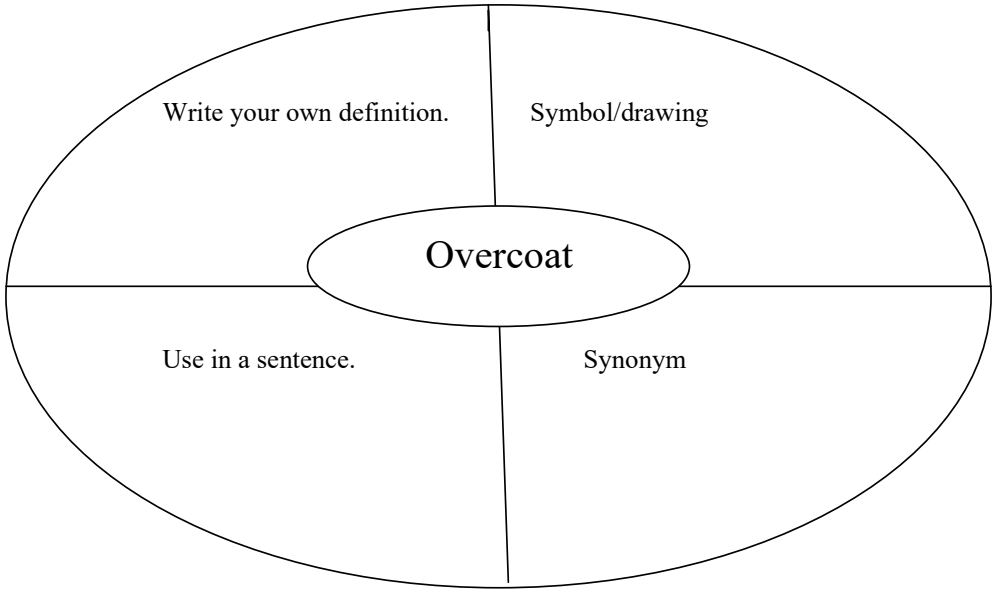
Gifted Intelligent Behaviors	Literature	Generalizations	Topic/Content
Innovation Persistence Metacognition Questioning Thinking Flexibly	Overcoat Fair Vest Chorus Nephew Suspenders Worn Handkerchief Fasten	Adaptation Conservation Exploration Positive Negative	Conservation Recycling Resourcefulness Clothing Design Economics Communication Family Traditions Culture

A Six-Step Process for Teaching Academic Vocabulary Terms:

1. Provide a description, explanation or example of the new vocabulary term.
2. Ask students to restate the description, explanation or example in their own words using complete sentences.
3. Ask students to construct a picture, symbol or graphic representing the term or phrase.
4. Engage the students periodically in activities that help them add to their knowledge of the terms in a booklet that they have created (Keep it simple.)
5. Periodically ask students to discuss the terms with one another (**Think** of your favorite vocabulary words from the unit; **pair** with a vocabulary buddy, **share** by discussing the vocabulary terms with your vocabulary buddy.) Teacher should model process each time before students do the Think, Pair, Share with Vocabulary Buddy.
6. Construct games to periodically involve students and allow them to play with the terms.

Marzano, R. (2000). *Designing a new taxonomy of educational objectives.* Corwin Press.
Marzano, R. (2004). *Building background knowledge.* Association for Supervision & Curriculum Development.

Sample: Vocabulary Wheel:
Provide paper with a circle divided into spokes. The center of the wheel has a space where the student writes the word. Spoke one: restate the meaning in your own words. Spoke two: constructing a picture or graphic representing the term. Spoke three: use the word in a sentence. Spoke four: write a synonym for the word.
After completing the wheel, work collaboratively with a partner to share their wheels and discuss the terms with one another.



Vocabulary Extensions:
Overcoat Game
Create a large coat with "library pockets" labeled with definitions. Have students match the vocabulary words with correct definitions while placing the words in the pockets. Have the students use the matched word in a complete sentence. How did creating the vocabulary wheels enable you to match the words?

Command Strategy: Vocabulary Mix and Match
Students are given index cards with words or definitions. The teacher announces the command, "Conservation". Students begin moving about the room, trading their face-down cards with students they pass. When the teacher uses the command word, students freeze and turn their card face up. They have to find their partner (definition or word) to match. The matches are shared with the class. The teacher commands again and students mix and match two or three times.

Six Facets of Understanding

Generalizations from universal concept:

- Change generates additional change.
- Change is inevitable.
- Change is necessary for growth.
- Change may be positive or negative.

Essential questions

- How might conservation generate positive change?
- How might exploration and adaptation create change in our environment?
- What changes could we make in our society to promote conservation?

Introduce one or more of the following topics:

Facet 1 – EXPLANATION
Students use "Life Long Learning" strategy (see appendix) to generate ideas, describe, and categorize different ways to use a piece of cloth (ie: cleaning rag, gift wrap, doll blanket, napkin, and pillow stuffing). How might exploration and adaptation create change in our environment?
Facet 2- INTERPRETATION
Use old scraps (newspapers, magazines, scraps of construction paper/craft supplies) to design and construct hats. Parade creations and judge hats based on student made criteria (ie: most unique, largest, smallest, etc.) What changes could we make in our society to promote conservation?
Facet 3 – APPLICATION
Students use "Circle of Knowledge" strategy (see appendix) to generate ideas of how recycling plastic helps our environment. Create a three dimensional visual aid from a two liter bottle by attaching ideas to or in the bottle (ie: create new products, reduce waste in land fields, keeps water supply pure). How might conservation generate positive change?
Facet 4 – PERSPECTIVE
Students use "compare and contrast" strategy (see appendix) to describe, discriminate, and discuss clothing from the past and present. Then share their perspective of how clothing has changed over time. How might exploration and adaptation create change in our environment?
Facet 5 – EMPATHY
Students predict what it would be like to swim in a polluted ocean. Then "role-play" (see appendix) the scenario in their classroom (while music plays) to represent what it would be like for animals living in a polluted area. How might conservation generate positive change?
Facet 6 – SELF-KNOWLEDGE
Use the "Boogie Woogie" strategy to brainstorm, share ideas generated, and add to understanding of what we could do with our gently used clothing to promote conservation(see appendix). How might conservation generate positive change?

Literature Selection: Joseph Had a Little Overcoat

Culminating Performance-Based Assessment (Type __Task-Rotations_____)
K-2
All conceptual learning experiences must include discussing and/or relating to the selected generalization(s) through essential questions.

Mastery Learner (A) **Sensing- Thinking** **You Are the Author!** Simms Taback has asked you to produce a sequel to Joseph Had a Little Overcoat. Create and illustrate your version of the story using the repeated pattern, ie. (Your Name), had a little (piece of clothing). How did you exemplify conservation as you changed your piece of clothing? How did the repeated patterns of the story help you structure your story? How did you apply your GIBs to complete your original version of the story? How did you exploration and adaptation of the clothing create change? How did your changes promote conservation? Multiple Intelligences: V*_L__S_*_M__B__P__I_*_N__	**Interpersonal Learner (B)** **Sensing-Thinking** **Newspaper Editorial** **Think, Pair, Share** Work with a partner to plan and write an editorial for your local newspaper about recycling and conservation in your community. Emphasize how the benefits of recycling and conservation can create positive changes to protect the environment. Collaborate with your partner to use the internet and research your town's recycling services. Include information about recycling centers and services that are available in your community. How can recycling and conservation create changes in your community? What are the positive aspects of conservation for your community? How did you and your partner use Metacognition to plan your editorial? Multiple Intelligences: V*__L__S__M__B__P_*_I__N_*_
Understanding Learner (C) **Intuitive-Thinking** **Debate the Issue** Evaluate the pros and cons of conservation. Students are dividing into two teams. Collaborate with your team using The Life-Long Learning Model (see Appendix) to brainstorm a list of ideas supporting your position. Choose two members from each team to debate the issue. The remainder of the class will analyze the debate based on the use of GIBs and ask questions based on the debater's evidence. To what extent is conservation necessary for protecting our environment? How could you convince society to conserve? How did you use Thinking Flexibly to brainstorm your ideas? Multiple Intelligences: V_*_L__S__M__B__P*__I__N_*_	**Self-Expressive Learner (D)** **Intuitive-Feeling** **Class Conservation Project** **Design a persuasive poster** Students bring in a used coat (or other article of clothing) to donate to a local charity. After reading the book, Recycle Everyday, students produce posters encouraging others to make donations, and determine locations for displaying the posters to generate the most impact on the community. Student's design their posters according to their location choice. How did the posters created by Minna and her friends impact change in the community? (Recycle Everyday) How did you feel about the changes you made in your community? How did you use Creating Imagining and Innovating to design your persuasive poster? Multiple Intelligences: V_*_L__S*__M__B__P_*_I__N*__

Real World Connections with Products: (Skills, Knowledge, Global Connections):
Book Sequel, Debate, Newspaper Editorial, Persuasive Poster

- create, analyze, illustrate, evaluate, debate, plan, apply, research, design

Real World Applications: (Careers, Inventions, Innovations)

- Newspaper Editor, Author, Illustrator, Debater, Researcher, Environmentalist, Artist, Conservationist

Real World Terms: (Vocabulary, Technical Vocabulary)

- Debate, Editorial, Community, Recycling, Conservation, Collaborate, Brainstorming, Donating, Sequel, Use

Connect all products in the unit to real world applications reflecting the concept, generalizations and topic. The above is an example of how this might be accomplished.

Concept Focus: Change

Overarching Generalizations:

- Change generates additional change.
- Change is inevitable.
- Change is necessary for growth.
- Change may be positive or negative.

More Complex Generalizations (Two or more concepts):

- Exploration may result in change or adaptation to meet needs.
- Conservation may create changes in patterns.

Essential Question:
(Include concept and intelligent behavior that leads to deeper understanding of the concept through exploration of the generalization)

- As a conservationist, what intelligent behaviors could you exhibit in creating positive change in our world?
- How could you use Thinking Flexibly and Creating, Imagining and Innovating to develop plans for conserving our environment?

Materials Needed for Task Rotation(s) Menu:

Mastery ⟶Patterned Book, Markers, Colored Pencils

Understanding⟶ Poster of Life-Long Learning Model steps, paper

Interpersonal ⟶ Computers with internet access, Editorial example, paper

Self-Expressive⟶ Recycle Everyday, Nancy Elizabeth Wallace, 2003, Poster paper, Paint, Pencils,

MetaCognitive Discussion
Related to the Prior Learning Experiences (Essential Questions)

(Whole Group and/or Seminar)

Conceptual Perspectives:
As you reflect on the pros and cons of conservation and recycling, how might your thoughts change as you hear more information?

What are some of the benefits a community could derive from donations of slightly used materials and persuasive posters displayed in the community?

What outcomes of editorials could promote positive change in a community recycling program?

Gifted Intelligent Behaviors:
How could you Think Flexibly when brainstorming ideas?

How could you use Creating, Imagining and Innovating to write and illustrate a sequel to the story and/or create a persuasive poster?

What are some of the GIBs you could use to plan a debate and/or organize an editorial?

How could you and a partner use Metacognition to plan an editorial?

Literary Perspectives:
How did Joseph demonstrate Persistence, and Creating, Imagining and Innovating as he designed his adaptations of the overcoat?

As you consider the sequence of changes in the story, explain how Joseph used Metacognition to plan his adaptations, and what evidence can you provide?

Student/Teacher Reflections: Socratic Seminar and Reflective Journal Entry:

- When reflecting on Community Projects, how might it make you feel about recycling and conservation?
- How might you influence friends and family members to practice conservation?
- What impact could conservation have in our world?
- What is a one-word summary of your experiences with conservation?

Rubric
Culminating Performance-Based Assessment K-2

Mastery Learner (A)
Sensing- Thinking

Content Mastery: Does the student's work provide new insight into the content of the task? Does the student's work demonstrate mastery of the conservation process and adaptations which produce positive change?

Competence: Does the student demonstrate proficiency in the selection and application of strategies and skills appropriate to planning and writing their original sequel to the story?

4 3 2 1

Interpersonal Learner (B)
Sensing-Thinking

Character: Is the student courageous and willing to take risks in creating an editorial to encourage positive change in the community?

Cooperation: Did the student share ideas with their partner and check to see if they understood their task of writing arguments to encourage recycling?

4 3 2 1

Central Dimensions
Choice: The student analyzes the advantages, disadvantages, and potential effects of each choice.
Craftsmanship: The student's work reflects an understanding of the appropriate genre and style with regard to purpose and audience.
Completion: The student completes all the requirements of the task in a timely manner.

Understanding Learner(C)
Intuitive-Thinking

Complex
Problem Solving:
Is the student able to reflect on the strengths and weaknesses of the debate team's arguments and use of the GIBs?

Critical Thinking: Is the student able to collect, organize and analyze data in order to prepare for their team's position?

4 3 2 1

Self-Expressive Learner (D)
Intuitive-Feeling

Creativity: Did the student create original work that expresses his or her individual style and unique point of view encouraging recycling?

Communication: Does the student demonstrate an understanding of the need for clear, effective and sensitive communication in order to persuade the community to donate clothing?

4 3 2 1

4 – Exceeds Expectations **3** – Meets Expectations **2** – Minimal Understanding **1** – Needs Support

Math Student Culminating Assessment
Task Rotation Learning Experience
K-2
All conceptual learning experiences must include discussing and/or relating to the selected generalization(s) through essential questions.

Mastery Learner (A)
Sensing- Thinking

Students use Life-Long Learning Model (see appendix) to collect data from class members. Each student uses 4 sticky notes to record their name and the 3 different ways to represent the number of buttons they are wearing. Notes are collected and organized on a class poster. Students reorganize the collected data by constructing a line plot.

As you evaluate clothing needs throughout the year, how could the data used in the line plot change throughout the year? What patterns occur with the number of buttons? Explain your conclusions.

As you organized your data, analyze what strategies helped you to think flexibly?

Multiple Intelligences:
V__L_*_S__M__B_*_P_*_I__N__

Interpersonal Learner (B)
Sensing-Thinking

Using Reciprocal Learning (see appendix), student constructs sorting rules needed to sort a collection of buttons in a Venn diagram. Student begins to place buttons on the Venn one-by-one while a partner monitors each move and hypothesizes the rule by asking questions. The objective is to determine the rule in the least number of moves. The observer tests his/her hypothesis by finding a button that meets the criteria and correctly placing it in the Venn. Once a rule is established for each set on the Venn, students describe the sets using number sentences. Then partners switch roles.

When detecting the rule to use in sorting buttons, how did your thinking and questioning strategy change throughout the task?

As you categorized the buttons, what gifted intelligent behaviors did you use to deepen your understanding and better communicate with your partner?

Multiple Intelligences:
V_*_L_*_S__M__B__P_*_I__N__

Understanding Learner (C)
Intuitive-Thinking

After reading The Hard-Times Jar by Ethel Footman Smothers and/or A Chair For My Mother by Vera Williams, students will roll money dice to determine how much they are allowed to "withdraw" from the class "bank" to spend on a "shopping trip". Students plan spending strategies and role play (see appendix) making purchases from a group of items previously set out and priced by the teacher. Students determine which coins represent the price of an item and select the least number of coins needed to make the purchase. Is there enough money left over to purchase a second item?

How could your spending strategy impact purchases or change decisions on how to spend money?

In analyzing purchases, what risks could be involved in the transaction? How could those risks be minimized?

Multiple Intelligences:
V__L_*_S__M__B_*_P__I__N__

Self-Expressive Learner (D)
Intuitive-Feeling

Using "Ask the Front Lines" (see appendix), contact a clothing expert and observe a real sewing pattern. After understanding that clothing is pieced together, students will design a pattern for an article of clothing by piecing together pattern blocks. Trace/outline the pattern. Finish the design by coloring the pattern as they wish. (Assess visual spatial skills). Create a title for your design. (Ex: My 8 Trapezoid Jeans)

How many pattern blocks were used to create your clothing pattern? How can you restructure and conserve the pattern blocks within the design by using the least number of blocks?

When designing a clothing pattern, how might a seamstress think flexibly to conserve resources?

Multiple Intelligences:
V_*_L_*_S_*_M__B__P__I__N__

Real World Connections with Products: (Skills, Knowledge, Global Connections)
Using the least amount of coins when making purchases
Saving, making a budget, and using coupons to conserve resources
Distinguishing needs from wants. Prioritizing necessary purchases

- Counting, adding, subtracting, sorting, matching, comparing, organizing, decision making

Real World Applications: (Careers, Inventions, Innovations)
Consumer, customer, advertiser, seller, salesman, cashier, producer, cash register, banker, account

Real World Terms: (Vocabulary, Technical Vocabulary)

sale, price, coupon, budget, debt, cash, credit, check, change, product, purchase, customer, consumer, savings, advertisement, currency, coins, dollars, spending

Connect all products in the unit to real world applications reflecting the concept, generalizations and topic. The above is an example of how this might be accomplished.

Concept Focus:
Change

Overarching Generalizations:
Change may result in additional change(s).

More Complex Generalizations (Two or more concepts):

Exploration may bring change or adaptations to meet needs.
Conservation may create changes in patterns.

Essential Question
(Include concept and intelligent behavior that leads to deeper understanding of the concept through exploration of the generalization)

- As a consumer, what gifted intelligent behaviors could you use in making money decisions?

- How might a financial situation change your thinking about money and a decision to save or spend?

Materials Needed for Task Rotation(s) Menu:

Mastery → sticky notes, poster board or chart paper, student paper, pencil, ruler
Interpersonal → assortment of buttons, Venn diagrams
Understanding → The Hard-Times Jar by Ethel Footman Smothers and/or A Chair For My Mother by Vera Williams, coin manipulatives, calculator, priced items to purchase, cash register (optional)
Self-Expressive → expert contact, real sewing pattern, pattern blocks, crayons/markers, plain paper

MetaCognitive Discussion
Related to the Prior Learning Experiences (Essential Questions)

(Whole Group and/or Seminar)

- As a consumer, what gifted intelligent behaviors could you use in making money decisions?

- How might your financial situation change your thinking about money and your decision to save or spend?

Conceptual Perspectives:

In reflecting on clothing needs throughout the year, how could the data used in the line plot change from season to season? Which season would generate more/less buttons? Explain your conclusions.

When determining rules used in sorting items, how could your thinking strategy change throughout the task?

How might available money impact our purchases or change our decision to spend money?

How could you conserve the pattern blocks within a design by using the least number of blocks?

Gifted Intelligent Behaviors:

As you organized data, what strategies helped you to think flexibly?

As you sort the items, what gifted intelligent behaviors could you use to deepen your understanding and better communicate with a partner?

In considering a purchase, what risks could be involved in the transaction? How could those risks be minimized?

When designing a clothing pattern, how might a seamstress think flexibly to conserve resources?

Literary Perspectives:

- Why would Joseph choose to conserve his resources?
- What items would Joseph include in his budget?
- In organizing his home, how did Joseph use sorting strategies?

Student/Teacher Reflections:

Choose a non-profit charity to support (SPCA, homeless shelter…). Plan a school-wide coin drive asking students to change their spending habits and to conserve their money, enabling them to give to the needy.

Rubric

Culminating Performance-Based Assessment (Type __Task-Rotation_)

K-2

Mastery Learner (A)
Sensing- Thinking

Content Mastery: Does the student's work demonstrate an understanding of the important generalizations, concepts, and facts specific to the task or situation?

Competence: Does the student demonstrate proficiency in the selection and application of strategies and skills appropriate to a task or situation?

4 3 2 1

Interpersonal Learner (B)
Sensing-Thinking

Character: Does the student exert a high level of effort and persistence towards the completion of challenging work?

Cooperation: Does the student listen to others, and ask questions for clarification and check for understanding?

4 3 2 1

Central Dimensions

Choice: Can the student explain the reason for his/her decision logically and clearly?

Craftsmanship: Does the student's work detect gaps, flaws, and contradictions in his her own work and devise strategies to address them.

Completion: Is the student able to assess what needs to be done to complete a task?

Understanding Learner
Intuitive-Thinking

Complex
Problem Solving: Does the student generate hypotheses, generalizations, and conclusions?

Critical Thinking: Does the student communicate both the problem-solving process and his or her results effectively?

4 3 2 1

Self-Expressive Learner (D)
Intuitive-Feeling

Creativity: Does the student create original work that expresses his or her individual style and unique point of view within the parameters of the task?

Communication: Does the student's communication comply with appropriate and standard language usage?

4 3 2 1

4 – Exceeds Expectations **3** – Meets Expectations **2** – Minimal Understanding **1** – Needs Support

Literature Selection: Joseph Had a Little Overcoat

Introduction Performance-Based Task
K-2
All conceptual learning experiences must include discussing and/or relating to the selected generalization(s) through essential questions.

Mastery Learner (A) **Sensing- Thinking** **Collaborative Story Sequencing** Reread the story. Students execute the Etch-A –Sketch strategy (see Appendix) to record symbols representing the key ideas and important details of the story's sequence. The teacher will first demonstrate using a SMART Board example. Students work collaboratively with a partner to sequence the story using a flow map and pre-cut pieces of the adapted clothing. Students add background/setting, details and characters to each block of the flow map. Students will retell the story using their completed flow maps to another group. How did completing the flow map give more meaning to the story? As you reflect on your group sequencing, how did you use Thinking Interdependently? In what ways does your flow map represent change? Multiple Intelligences: V*__L_*_S*__M__B__P_*_I__N__	**Interpersonal Learner (B)** **Sensing-Thinking** **Reflective Journal Entry/ Letter** Construct a reflective journal entry empathizing with Joseph concerning a favorite piece of clothing you do not want to give up –OR – Write a letter to Joseph telling him about your favorite clothing item. Be creative and include 1) rationale for choosing this item, 2) information concerning adapting the item, and 3) your emotional connection with conservation of this piece of clothing. In what ways did this activity promote conservation? How would you explain your feelings about transforming this piece of clothing into something useful? How did you use Thinking Flexibly and Creating, Imagining, and Innovating to adapt your favorite item? Multiple Intelligences: V_*_L__S__M__B__P__I_*_N_*_
Understanding Learner (C) **Intuitive-Thinking** **The Rubbish Challenge** Students play the interactive game, The Rubbish Challenge at the Recyclezone website. http://www.recyclezone.org.uk/home_fz.aspx The game will first be introduced on the SMART Board to deepen understanding of sorting recycling items. Students select two items from the class collection of recyclable items. They will brainstorm uses for both items. Next, they will use a Venn diagram to compare and contrast uses for the two items. The class will then implement the Torrance Decision Making Model (see appendix) to analyze and evaluate the diagrams and use criteria to conclude which item is the most useful. How did exploring the website game give you practice in conservation? How did taking a responsible risk help you evaluate and present your findings to the class? Multiple Intelligences: V_*_L__S_*_M__B__P_*_I*__N_*_	**Self-Expressive Learner (D)** **Intuitive-Feeling** **Song and Dance** The students will sing the song in the back of the book, "I Had a Little Overcoat" **and/or** listen to *Tumbalalaika* which is the song that Joseph sings in the chorus. Students will interpret the song by creating dance movements and applying rhythm instruments to verses of the song. Students will also take turns role-playing the sequence of change of clothing adaptations using props. As you reflect on your class performance, how did changes occur as you added the dance moves, instruments and props? How did using GIBs help you change and improve the performance? Why did the author choose to include this song in the text? What can you infer from the holiday/cultural symbols in the text? http://www.klezmerband.us/takealisten.aspx http://www.hebrewsongs.com/yiddish.htm Multiple Intelligences: V*__L__S__M*__B_*_P*__I__N__

Real World Connections with Products: (Skills, Knowledge, Global Connections)
Letter, Journal Entry, Flow Map, Musical Performance

use, record, sequence, retell, create, adapt, brainstorm, compare and contrast, analyze

Real World Applications: (Careers, Inventions, Innovations)
Conservationist, Musician, Dancer, Illustrator, Computer Programmer, Journalist, Author, Model, Choreographer, Singer

Real World Terms: (Vocabulary, Technical Vocabulary)
defend, illustrate, empathize, transform, and role-play, flow map, journal, rhythm, criteria, adaptation

Connect all products in the unit to real world applications reflecting the concept, generalizations and topic. The above is an example of how this might be accomplished.

Concept Focus:
Change

Overarching Generalizations:

- Change generates additional change.
- Change is inevitable.
- Change is necessary for growth.
- Change may be positive or negative.

More Complex Generalizations (Two or more concepts):

- Exploration may result in change or adaptation to meet needs.
- Conservation may create changes in patterns.

Essential Question
(Include concept and intelligent behavior that leads to deeper understanding of the concept through exploration of the generalization)

- As a conservationist, what intelligent behaviors could you exhibit in creating positive change in our world?
- How might you use Thinking Flexibly and Creating, Imagining and Innovating to develop plans for conserving our environment?

Materials Needed for Task Rotation(s) Menu:

Mastery ⟶ Flow maps, Markers, Paper, SMART Board, Pre-cut clothing items

Understanding⟶ Recyclable items, Computers with Internet access, Paper, Markers

Interpersonal ⟶ Paper, Editorial example,

Self-Expressive ⟶Musical rhythm instruments, Props, Copies of Song, internet (optional)

MetaCognitive Discussion
Related to the Prior Learning Experiences (Essential Questions)

(Whole Group and/or Seminar)

Conceptual Perspectives:

- How could change result in conservation?
- How could change generate additional change?
- How might change be either positive or negative?
- As you reflect on our class performance, how did the song change as you added the dance moves, instruments and props?

Gifted Intelligent Behaviors:

- As you reflect on your group sequencing, how could you use Thinking Interdependently?
- How could you take a responsible risk in presenting your findings to the class?
- How might using GIBs help you change and improve a performance?
- How could you use Thinking Flexibly and Creating, Imagining, Innovating to adapt a favorite item?

Literary Perspectives:

- In what ways could your favorite piece of clothing change as you adapt it like Joseph did?
- How might the author's letter to the reader increase your empathy for Joseph?
- How might the cut-outs of patterned cloth in the story help you organize your flow map as you sequenced the story?
- As you reflect on Joseph's adaptations in the story, how could this influence your desire to practice conservation?

Student/Teacher Reflections: After using the Torrance Decision Making Model (Understanding Task Rotation), the class will create illustrations and write observational sentences describing the recyclable item judged as most useful. Writings and illustrations will be shared with the class and may be used for the Content Writing Assessment.

Rubric

Culminating Performance-Based Assessment (Type _Task Rotation_____)

Mastery Learner (A)
Sensing- Thinking

Content Mastery: Does the student's work demonstrate an understanding of the important generalizations, concepts and facts specific to sequencing Joseph had a little overcoat?

Competence: Did the student demonstrate proficiency in the application of strategies and skills appropriate to mapping the sequential order of the story?

4 3 2 1

Interpersonal Learner (B)
Sensing-Thinking

Character: Did the student take pride in his/her reflective journal entry and thoughtfully answer the guiding questions? Did the student demonstrate sensitivity and empathy with the main character?

Cooperation: Did the student show respect for the thoughts and feelings of their classmates as journal entries were shared?

4 3 2 1

Central Dimensions

Choice: Does the student identify the priorities to be addressed and formulate appropriate criteria on which to base the decisions about conservation?
Craftsmanship: Did the student create high-quality products that reflect care and a concern for quality?

Completion: Is the student able to monitor his/her progress and respond appropriately to feedback?

Understanding Learner (C
Intuitive-Thinking

Complex
Problem Solving: Is the student able to apply one or more appropriate problem solving techniques to analyze the recyclable items based on criteria?

Critical Thinking: Did the student employ analytic and interpretive strategies, such as compare and contrast and decision-making to complete the task?

4 3 2 1

Self-Expressive Learner (D)
Intuitive-Feeling

Creativity: Is the student's song/dance/role-play interesting and appealing to the audience (class or guests) as a result of its inventiveness and aesthetic sense?

Communication: Did the student demonstrate the flexibility needed to explore different forms of self-expression through the performance?

4 3 2 1

4 – Exceeds Expectations **3** – Meets Expectations **2** – Minimal Understanding **1** – Needs Support

Math
Introduction Performance-Based Task
K-2
generalization(s) through essential questions.

Mastery Learner (A)
Sensing- Thinking

After direct instruction on subsitizing and practicing with dot cards, students connect number to models and explain their thinking in adding the numbers together to make the whole. Students guess the number of animals on a page in the anchor text after a quick glance and check their answers together.

Using the page of Joseph and his little scarf, design a chart of Joseph and the 10 animals that represent the number of legs and eyes for each character in at least 2 different ways (number, number word, tally, place value blocks, coins, ten frames…). Organize data in columns and rows. Determine and use various strategies to total each column.

As you reflect on last year, how has your ability changed and grown in order to represent numbers in various forms? As you organized your data, what strategies helped you to think flexibly? How did subsitizing help you?

Multiple Intelligences:
V__L_*_S__M__B__P__I__N_*_

Interpersonal Learner (B)
Sensing-Thinking

Trace each foot (with shoe on). Choose from a variety of nonstandard /standard units (cubes, buttons, tape measure…) to identify the length and width. Express findings in a complete sentence. Write a number sentence to show findings. Join with a partner to combine findings.

"My feet plus your feet equal _____"

____ + ____ = _____

How does representing a number using a number sentence show conservation?

Test whether you and 3 friends would be able to stand on a scarf that is a meter in length?
Write number sentence to show the outcome.

You may need to use the symbols $>$ $<$ $\neq$
How might you predict what factors could change the outcome (position/length of feet, etc.)?

As you strive to communicate with clarity and precision, what questions might you ask to gather the data you need to solve this problem?

Multiple Intelligences:
V_*_L_*_S__M__B_*_P_*_I__N__

Understanding Learner (C)
Intuitive-Thinking

Implement the Proceduralizing strategy (see appendix) to organize necessary steps in making all possible combinations of snack items. (fruit, pretzels, cheese, juice) Students construct a wardrobe by showing all the clothing combinations made from a limited number of clothing items (such as shorts, jeans, t-shirt, and sweatshirt).
http://abcteach.com/directory/clip_art/clothes/
(clothing patterns for teacher to reproduce)

"Bobby Bear" – online task
http://illuminations.nctm.org/activitydetail.aspx?id=3
As you reflect on your thinking, what process/strategy did you use to solve this problem? (memory, sequence, rotating, random guess…)

How do the total combinations change when additional items are added? Make a hypothesis. Then create a 2-column chart (# of items / # of combinations) to expose the changing pattern. Be sure to test your hypothesis to verify the pattern rule.

Multiple Intelligences:
V__L_*_S_*_M__B__P__I__N__

Self-Expressive Learner (D)
Intuitive-Feeling

Predict/estimate how many square inch tiles would fit on a 3x5 index card. Record your estimation on the back of the card.

Design a patterned quilt that exactly fits on the card. Trace and create a pattern for each tile.

How does your estimation compare to the actual number of tiles used in your quilt?

How could the number of tiles and/or pattern change if you reproduced a quilt for each member of your family?

Construct a chart showing how many total tiles are needed for your family. Be sure to include yourself.

As you think about your counting strategy for this problem, how could skip counting help you calculate the total number of tiles?

Multiple Intelligences:
V__L_*_S_*_M__B__P__I__N__

Real World Connections with Products: (Skills, Knowledge, Global Connections)

Making daily choices of clothing combinations
Being resourceful to make multiple combinations with a limited number of clothing items

- sorting, matching, comparing, contrasting, organizing, decision making, designing

Real World Applications: (Careers, Inventions, Innovations)
fashion designer, model, seamstress, salesperson, photographer, celebrity, politician, artist

Real World Terms: (Vocabulary, Technical Vocabulary)

fashion, wardrobe, texture, fabric, pattern, plaid, solid, striped, polka-dot, floral, print, portfolio,

Connect all products in the unit to real world applications reflecting the concept, generalizations and topic. The above is an example of how this might be accomplished.

Concept Focus:
Change/Exploration

Overarching Generalizations:
Change may result in additional change(s).

More Complex Generalizations (Two or more concepts):

Exploration may bring change or adaptations to meet needs.

Essential Question
(Include concept and intelligent behavior that leads to deeper understanding of the concept through exploration of the generalization)

- As a fashion designer, what gifted intelligent behaviors could you use to design a portfolio showcasing multiple outfits using a limited number of clothing articles?

- How might culture or time period change the decision as to what to include in a portfolio?

Materials Needed for Task Rotation(s) Menu:

Mastery → page from text, ruler, paper, calculator, pencil

Interpersonal → measuring manipulative units determined by teacher, one scarf per group, pencil, paper

Understanding → computer with online access or paper cut-outs of clothing items, people patterns

Self-Expressive → square inch tiles, 3x5 index cards, pencils, crayons,

MetaCognitive Discussion
Related to the Prior Learning Experiences (Essential Questions):

(Whole Group and/or Seminar)

- As a fashion designer, what gifted intelligent behaviors could you use to design a portfolio showcasing multiple outfits using a limited number of clothing articles?

- How might culture or time period change the decision as to what to include in a portfolio?

Conceptual Perspectives:

- How might change result in conservation?
- How could change generate additional change?
- How might change be either positive or negative?
- Why is change necessary for growth?
- What patterns may be repeated when experiencing change? (Discuss change in the story and relate to other changes that students may have experienced. How may similar patterns be repeated in different settings?)

Gifted Intelligent Behaviors:

- As you reflect on your thinking, what processes and/or strategies did you use to solve problems?

- As you strive to communicate with clarity and precision, what questions might you ask to gather data needed to solve problems?

- As you organize data, what strategies helped you to think flexibly?

Literary Perspectives:

- Why would Joseph choose to conserve his resources?
- How are you are alike and/or different than Joseph?
- Why does the author include another language in the text?
- Why could math be called a universal language?
- How could the patterns in the illustrations best be described using our knowledge of attributes?

Student/Teacher Reflections:
Write a journal entry with an example showing how math vocabulary communicates conservation ideas.

Example: “When 3 people fit in a seat on the bus, more people can ride on that bus.”

Rubric

Introduction Performance-Based Tasks (Type _Task Rotation__)
K-2

Mastery Learner (A)
Sensing- Thinking

Content Mastery: Does the student's work demonstrate an understanding of the important generalizations, concepts, and facts specific to the task or situation?

Competence: Does the student demonstrate proficiency in the selection and application of strategies and skills appropriate to a task or situation?

4 3 2 1

Interpersonal Learner (B)
Sensing-Thinking

Character: Does the student exert a high level of effort and persistence towards the completion of challenging work?

Cooperation: Does the student identify difficulties facing the group and help to overcome them?

4 3 2 1

Central Dimensions
Choice: Can the student explain the reason for his/her decision logically and clearly?
Craftsmanship: Does the student's work detect gaps, flaws, and contradictions in his her own work and devise strategies to address them.
Completion: Is the student able to assess what needs to be done to complete a task?

Understanding Learner (C)
Intuitive-Thinking

Complex
Problem Solving: Does the student apply rules of logic and evidence to analyze, interpret, and develop a position?

Critical Thinking: Is the student able to apply one or more appropriate problem-solving techniques to the task?

4 3 2 1

Self-Expressive Learner (D)
Intuitive-Feeling

Creativity: Does the student create original work that expresses his or her individual style and unique point of view within the parameters of the task?

Communication: Does the student effectively communicate using situationally-appropriate methods and media (physical representation)?

4 3 2 1

4 – Exceeds Expectations 3 – Meets Expectations 2 – Minimal Understanding 1 – Needs Support

Tiered Performance-Based Tasks
K-2

- All conceptual learning experiences must include discussing and/or relating to the selected generalization(s) through essential questions.

Concept: Change **Topic: Conservation**

Generalization(s): Change may be positive or negative. Change is inevitable.
Change generates additional change. Change is necessary for growth.

Essential Question(s):

- As a conservationist, what intelligent behaviors could you exhibit in creating positive change in our world?
- How might you use Thinking Flexibly and Creating, Imagining and Innovating to develop plans for conserving our environment?

Task Rotation Menu

Level	Mastery	Understanding	Self-Expressive	Interpersonal
1 (standard)	**Acrostic Poem:** Compose an Acrostic Poem with the word Conservation (include vocabulary, facts, and concepts about conservation).	**T-Chart:** Desigh a T-Chart using magazine pictures and categorize items into things that can be conserved and things that can not be conserved. Include an original illustration of an item for both categories.	**Class Mural:** Work collaboratively to construct a class mural depicting conservation in many forms. Display the mural in the hallway to influence others to conserve.	**Letter:** Plan and compose a letter to your best friend explaining the need to conserve. Tell him or her all you have learned about the importance of conserving.
2 (bridge between standard & top 3 to 5 %)	**Reversed Flow Chart:** Display a recycled final product (ex: garden hose made from recycled tires) and produce a reversed flow chart illustrating the steps the product went through during the transformation.	**Conserve a Toy:** Generate ideas for conserving an old toy that you do not use anymore. Record ideas on a multi-flow map, illustrating cause and effect or if/then scenarios. Ex: If you give the old toy to a charity, then another child will be able to enjoy it.	**Construct Simile:** Conservation is like _____, because _____, and illustrate using chosen art materials. Ex: Conservation is like playing sports because you work hard to improve and get many benefits.	**Internet Game:** Work with a partner and use the interactive computer game online: www.y8.com/**games**/Huru_Humi_Schoolyard_**Recycling** - Students work with a partner to select the appropriate bins for the cafeteria trash. After playing, students create drawings and descriptions for an example of each category.
3 (for top 3 to 5 %)	**SCAMPER solutions for Conservation:** Students work in a small group and use the SCAMPER technique to plan new possibilities that may lead to conservation of discarded items. Students present their solutions to the class.	**Carousel Brainstorming** Divide the class into four groups. Provide four posters with scenarios about conservation practices: conserving fuel, water, energy, and paper. Each team is given a marker color and placed at one of the posters to start. Groups have 3 minutes at each poster to generate solutions for that type of conservation. The teacher gives a predetermined command word every 3 minutes and the groups "carousel" to the next station. After rotating through all stations, results are tallied and presented	**Class PowerPoint Show: Delphi Strategy** Students distribute questionnaires to teachers and staff concerning paper use in the school. Based on data collected, students collaborate with a partner to create a slide illustrating a solution for solving the problem. The final product will be played on the morning video announcements.	**Conservation Goal Setting:** Select one way you can practice conservation for a week. Set a goal for how much you will conserve. Record your conserving activities each day. At the end of the week, tally your results and compare to your original goal. Reflect on your successes/difficulties for the week and discover the changes you have made in helping the environment.

Real World Connections with Products: (Skills, Knowledge, Global Connections
Flow Chart, T-Chart, Multi-Flow Map, Class Mural, Simile, Questionnaire, PowerPoint Show, Letter, Goal Record

create, deduct, use, generate, categorize/sort, brainstorm, gather data, write, explain, describe, determine, record, reflect, collaborate

Real World Applications: (Careers, Inventions, Innovations)
Author, Conservationist, Artist, Graphics Designer, Charity Volunteer, Data Collector

Real World Terms: (Vocabulary, Technical Vocabulary)
acrostic poem, reversed flow chart, SCAMPER, solutions, T-chart, sort, multi-flow map, cause and effect, charity, PowerPoint show, simile, mural, questionnaire, data, goal-setting,

Connect all products in the unit to real world applications reflecting the concept, generalizations and topic. The above is an example of how this might be accomplished.

Concept Focus:
Change

Overarching Generalizations:

- Change generates additional change.
- Change is inevitable.
- Change is necessary for growth.
- Change may be positive or negative.

More Complex Generalizations (Two or more concepts):

- Exploration may result in change or adaptation to meet needs.
- Conservation may create changes in patterns.

Essential Question
(Include concept and intelligent behavior that leads to deeper understanding of the concept through exploration of the generalization)

- As a conservationist, what intelligent behaviors could you exhibit in creating positive change in our world?
- How might you use Thinking Flexibly and Creating, Imagining and Innovating to develop plans for conserving our environment?

MetaCognitive Discussion
Related to the Prior Learning Experiences (Essential Questions):

(Whole Group and/or Seminar)

Conceptual Perspectives:

- How could I create change in conservation in my home, school and community?
- How might I explore solutions for change in conservation practices?
- In what ways could adaptation lead to change?
- How might change be positive or negative?
- As we consider our community projects and products, how might we change patterns of conservation?

Gifted Intelligent Behaviors:

- How could my team use Flexible Thinking and Thinking Interdependently to brainstorm new solutions for conservation?
- As reflecting on the SCAMPER technique, how might my group use Creating, Imagining and Innovating to generate new possibilities?
- Which GIBS may help explore change in conservation practices?
- After reviewing my task experiences, which GIBs do I need to strengthen?

Student/Teacher Reflections:

To culminate this comprehensive unit on conservation, students and teachers should plan and implement a recycling system in their schools (or improve and expand the system already in place). It is unconscionable that many of our schools do not recycle, reuse or reduce at all.

Use internet resources and collaborate with administrators and community leaders to install recycle bins in cafeterias, hallways, the teacher's lounge, and playground. Serve as coordinators to infuse this essential practice with your 21st century students as you meet the "Conservation Challenge".

Additional Support Materials:

Favorite Read-Aloud(s):

Corduroy by Don Freeman
http://www.youtube.com/watch?v=0hEHdFMexpc

The Patchwork Quilt by Valerie Flournoy

The Keeping Quilt by Patricia Polacco

Recycle by Gail Gibbons

The Button Box by Margarette Reid

The Everything Kids' Money Book by Diane Mayr

Finger Plays, Nursery Rhymes and Songs:

"This Old Man" http://kids.niehs.nih.gov/lyrics/oldman.htm

"The More We Get Together" http://kids.niehs.nih.gov/lyrics/moreweget.htm

Here's a Cup of Tea
Here's a cup, and here's a cup
(make circles with thumbs and index fingers on each hand and extend arms)
And here's a pot of tea.
(make fist with one hand, extend thumb for spout)
Pour a cup, and pour a cup
(tip fist to pour)
And have a drink with me.
(make drinking motions)

One for the Money
One for the Money,
(point to each finger)
two for the show,
three to get ready,
and four to go.

Little Mousie
Here's a little mousie,
Peeking through a hole,
(Poke index finger of one hand through fist of the other hand)
Peek to the left,
(Wiggle finger to the left)
Peek to the right,
(Wiggle finger to the right)
Pull your head back in,
(Pull finger into fist)
There's a cat in sight!

Little Mouse
Quickly, quickly, very quickly
(circle palm quickly)
Runs the little mouse
Quickly, quickly, very quickly
Round about the house
(walk up arm and tickle and hug)

Poems:

Smart By: Shel Silverstein
My dad have me one dollar bill
"Cause I'm his smartest son,
And I swapped it for two shiny quarters
"Cause two is more than one!

And then I took the quarters
and traded them to Lou
For three dimes--I guess he don't know
That three is more than two!

Just then, along came old blind Bates
And just 'cause he can't see
He gave me four nickels for my three dimes,
And four is more than three!

And I took the nickels to Hiram Coombs
Down at the seed-feed store,
And the fool gave me five pennies for them,
And five is more than four!

And then I went and showed my dad,
And he got red in the cheeks
And closed his eyes and shook his head-
Too proud of me to speak!

Money Poem
http://www.tooter4kids.com/classroom/math_poems.htm

Penny, penny, easy spent,
Copper brown and worth one cent.

Nickel, nickel, thick and fat,
You're worth 5. I know that.

Dime, dime, little and thin,
I remember—you're worth 10.

Quarter, quarter, big and bold,
You're worth 25, I am told.

Half a dollar, half a dollar,
Giant size.
50 cents to buy some fries.

Dollar, dollar, green and long,
With 100 cents you can't go wrong

Video Clips:

http://www.nick.com/minisites/biggreen/index.jhtml?adfree=true&_requestid=1040903#

http://aggie-horticulture.tamu.edu/sustainable/slidesets/kidscompost/kid1.html

http://www.youtube.com/watch?v=0Am9JPfuNsw

http://www.youtube.com/watch?v=LUXYjtHX8wA

Other Websites:

How to Make Sock Puppets http://www.legendsandlore.com/sockpuppets.html

Paintings & Prints:

Quilting Patterns http://www.ideas-for-quilting.com/freequiltblockpatterns.html

Yiddish Alphabet http://www.jewfaq.org/graphics/yiddish.gif

Recycling Symbol

American Flag from recycled materials http://www.nrc-recycle.org/Data/Sites/1/Flag.jpg

"Patchwork Quilt" by Carolyn Watson
http://www.allposters.com/gallery.asp?startat=/getposter.asp&APNum=32909&CID=5C1DBCB

E0AEF4940A315447B50159503&PPID=1&search=quilt&f=t&FindID=0&P=1&PP=9&sortby=PD&cname=&SearchID=

"A Girl Reading a Letter, with an Old Man Reading over Her Shoulder", circa 1767-70
http://www.art.com/products/p12621368-sa-i1352610/joseph-wright-of-derby-a-girl-reading-a-letter-with-an-old-man-reading-over-her-shoulder-circa-1767-70.htm?sorig=cat&sorigid=0&dimvals=0&ui=f475dc0b844e4e60b32a7e331f8e5c2f

Learning from Trash – Detective Activity

Save your trash for a week; preferably dry trash. Or have a neighbor or parent save theirs. Have your students go through the trash and see what they can figure out about the person from the trash. If using your trash or anyone that your class knows, try to eliminate trash with names on it, or cover names up. Students will have fun seeing how much can be learned of a person from her trash.

Teacher Reflections

Literary Selection

Date **School** **Grade**

1. What were the strengths of the task rotations and/or other activities?

2. How did the task rotations and/or activities reveal students' Intelligent Behaviors? Please discuss how each Intelligent Behavior manifested it self.

3. What would you change or add the next time you taught this lesson?

4. What opportunities for growth does the resource unit have?

5. What were "ah ha's?" for the students? For teachers?

"Additional Comments

APPENDIX

A

Additional Instructional Concept-Based Activities

Appendix

Online Resources for Teaching Strategies:

Circle of Knowledge strategy:
http://www3.moe.edu.sg/edumall/tl/it_integration/engaging_it_practices/libstrategies-cooperative(c).htm

Circle teaching strategy:
http://www.learner.org/workshops/tml/workshop1/teaching.htm

Collaboration teaching strategy:
http://teaching.berkeley.edu/bgd/collaborative.html

Command teaching strategy:
http://www.educ.uvic.ca/Faculty/thopper/Pe352/2003/Darrian%20Rob%20&%20Marcy%20Squash/new_page_9.htm

Compare and Contrast teaching strategy:
http://www.kidbibs.com/learningtips/lt26.htm

Divergent Thinking teaching strategy:
http://faculty.washington.edu/ezent/imdt.htm

http://www.learningandteaching.info/learning/converge.htm

http://www.educ.uvic.ca/Faculty/thopper/Pe352/2003/Darrian%20Rob%20&%20Marcy%20Squash/new_page_9.htm

Pair Share strategy:
http://www.eazhull.org.uk/nlc/think,_pair,_share.htm

Procedural teaching strategy:
http://wik.ed.uiuc.edu/index.php/Procedural_knowledge

http://books.google.com/books?id=y3FcwXwfjeMC&pg=PA51&lpg=PA51&dq=procedural+knowledge+and+teaching+strategy&source=bl&ots=2YFVzUjLKP&sig=35xOarBN9Js-_oB6xgEMZtisaNg&hl=en&ei=85k6SsXxK42yMYWvna8F&sa=X&oi=book_result&ct=result&resnum=4

Reciprocal Learning strategy:
http://www.greece.k12.ny.us/instruction/ela/6-12/reading/Reading%20Strategies/reciprocal%20teaching.htm

http://www.educ.uvic.ca/Faculty/thopper/Pe352/2003/Darrian%20Rob%20&%20Marcy%20Squash/new_page_9.htm

Role-playing strategy:
http://serc.carleton.edu/introgeo/roleplaying/howto.html

SCAMPER teaching strategy:
http://detblogger.blogspot.com/2008/12/scamper-technique-for-tthinking.html

http://wwwfp.education.tas.gov.au/English/scamper.htm

Socratic Seminar teaching strategy:
http://www.greece.k12.ny.us/instruction/ela/SocraticSeminars/facilitatingthoughtfuldialogue.htm

Additional Resources for Teaching Strategies:

Boogie Woogie teaching strategy:

Hargett, M.P. (2009). *Engaging students in 21st century learning: Instructional practices to improve student achievement.* Monroe, NC.

Cognitive Scaffolding: Extension of Thinking Skills

Hargett, M. P. (2009) *Cognitive Scaffolding, Horizontal/Vertical Extensions, Bridge Spans.*
Monroe, NC.
Parks, Sandra. (2008) *Building Thinking Skills Primary: Teacher's Manual, p. 120-145*
"Thinking About Animals" chapter 7, p.167-190 student book.

1. Teacher explicitly teaches describing as a developmental thinking skill as outlined in chapter seven. A child learns to first observe, second to describe (give attributes, details or characteristics) and third to recognize the characteristics of the object.
2. Students choose and describe an animal from the text, Joseph Had a Little Overcoat.
3. Teacher records student responses on the Description Diagram, (transparency master 9, p. 233).
4. After describing several animals from the story, students choose two animals to compare and contrast similarities and differences, which is the second developmental process a child develops.
5. Teacher records student responses on the Compare or Contrast Diagram, (transparency master 10, p.234).
6. After demonstrating deep understanding of the taught thinking skills, describing and comparing and contrasting, students proceed to the performance based task rotations (see Math Introduction Performance Based Task- Mastery Learner).

Etch A Sketch teaching strategy:

1. Teacher presents brief overview of text or information to be learned. Teacher makes sure to speak slowly and use emotion.
2. While teacher is presenting, students draw 3-5 sketches to represent their understanding of the concept(s).
3. Students then meet with each other to guess the meaning of drawings, summarize big ideas, and important details.
4. At end of presentation, students synthesize ideas in writing or other visual format.

Silver, H., Strong, R., and Perini, M. (2007). *The strategic Teacher.* Alexandria, VA: Association for Supervision and Curriculum Development.

Delphi Technique:

Hargett, M. P. (2009). *Engaging students in 21st century learning: Instructional practices to improve student achievement.* Monroe, NC.

Decision Making Model:

Hargett, M.P. (2009). *Engaging students in 21st century learning: Instructional practices to improve student achievement.* Monroe, NC.

SCAMPER:

Hargett, M.P. (2009). *Engaging students in 21st century learning: Instructional practices to improve student achievement.* Monroe, NC.

Online Games and Templates:

"Bobby Bear" – clothing combinations
http://illuminations.nctm.org/activitydetail.aspx?id=3

Clothing patterns for teacher to reproduce:
http://abcteach.com/directory/clip_art/clothes/

Recycling sorting game:
www.y8.com/**games**/Huru_Humi_Schoolyard_**Recycling** -

The Rubbish Challenge:
http://www.recyclezone.org.uk/home_fz.aspx

Read:

Culminating Performance-Based Tasks/Assessments

Designed for the top 3 to 5 %; Use for level 3 of the Tiered Task Rotation Menu
K-2
All conceptual learning experiences must include discussing and/or relating to the selected generalization(s) through essential questions.

Each style learning experience needs to include:

- Type of Knowledge
- Levels of Cognition
- Differentiated Instructional Strategies
- GIB
- Conceptual Lens

Mastery Learner (A) **Sensing- Thinking** Conceptual Question: GIB Question: Thinking Skills: D ___S&D ___S ___ C ___ A___ Multiple Intelligences: V__L__S__M__B__P__I__N__	**Interpersonal Learner (B)** **Sensing-Thinking** Conceptual Question: GIB Question: Thinking Skills: D ___S&D ___S ___ C ___ A___ Multiple Intelligences: V__L__S__M__B__P__I__N__
Understanding Learner (C) **Intuitive-Thinking** Conceptual Question: GIB Question: Thinking Skills: D ___S&D ___S ___ C ___ A___ Multiple Intelligences: V__L__S__M__B__P__I__N__	**Self-Expressive Learner (D)** **Intuitive-Feeling** Conceptual Question: GIB Question: Thinking Skills: D ___S&D ___S ___ C ___ A___ Multiple Intelligences: V__L__S__M__B__P__I__N__

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Wallace, N. E. (2006). *Recycle everyday.* Marshall Cavendish Children's Books.

Williams, V. (1984). *A chair for my mother.* Harper Collins.