The Schoolwide Enrichment Model
The What, Why, Who, and How

Joseph S. Renzulli
The University of Connecticut

The National Research Center
on the Gifted and Talented

The Renzulli Center
For Creativity,
Gifted Education,
and Talent
Development
Outline

1. The Big Ideas Underlying The SEM
2. The Why and The Who Questions
3. What is Creative/Productiveness?
4. Curriculum Modification for High Achieving Students
5. A Multiple Criteria Strength Based Identification System
6. Underlying Theories Of Knowledge and Differentiation
7. The Enrichment Triad In Action
8. Enrichment Clusters [The “Growth Stock” of The SEM]
9. Infusion of Enrichment Into the Regular Curriculum
10. Best Resources For Creative/Productive Giftedness
11. The Renzulli Learning System
The Big Ideas Underlying the SEM

• Focus On Creative Productivity, An Investigative Mindset and Co-Cognitive Characteristics

• General Enrichment For All Students and Targeted Enrichment and Acceleration For Students Who Demonstrate Advanced Potential

• Maintenance of Specially trained Personnel Existing Programs and Services

• Practice Driven, Theory Based, Research Supported

• Common Goals/Unique Means

• Abundant Resources And Teacher Training

• Making Schools A Happy Place For All Students

“Example is the best school of mankind and they will learn at no other.”

Philosopher, Edmund Burks
The Schoolwide Enrichment Model

A Different “Brand” of Learning

School Structures

The Regular Curriculum

The Enrichment Clusters

After School Programs

Comprehensive Strength Assessment Portfolio

Curriculum Modification For High Achieving Students [Compacting]

Enrichment Learning and Teaching

TYPE I
GENERAL EXPLORATORY ACTIVITIES

TYPE II
GROUP TRAINING ACTIVITIES

TYPE III
INDIVIDUAL & SMALL GROUP INVESTIGATIONS OF REAL PROBLEMS

Regular Classroom

Environment In General

Renzulli Learning System

- Strength-Based Identification Instruments
- Curriculum Materials (SEM-R; Mentoring Mathematical Minds [Project M3, M2])
- Staff Development Training Materials
- Evaluation Instruments

Resources

www.gifted.uconn.edu
The Goals of The SEM

Enjoyment

Engagement

Enthusiasm For Learning
## Continuum of Learning Theories*

<table>
<thead>
<tr>
<th>Deductive Didactic &amp; Prescriptive</th>
<th>Pedagogy</th>
<th>Inductive, Investigative &amp; Inquiry Oriented</th>
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<tbody>
<tr>
<td>Knowledge Acquisition, Storage, and Retrieval. Prescribed &amp; Predetermined Content</td>
<td>Knowledge Application, High Engagement, Motivation And Enjoyment. J-I-T Content</td>
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### Outcomes

<table>
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<th>Basic Skill Acquisition Text Consumption</th>
<th>Major Theorists</th>
<th>21st Century Thinking Skills Creative Productivity</th>
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<tr>
<td>Behaviorists</td>
<td>Constructivists</td>
<td>Pestalozzi, Torrance, Montessori, Gardner, Piaget &amp; Bruner, Dewey, Sternberg</td>
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<td>• Pavlov</td>
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<td>• Thorndike</td>
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<td>• Skinner</td>
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</tbody>
</table>

### National Goals

- Increased Academic Achievement
- Higher Test Scores
- Technically Proficient Professional and Skilled Workers

*Both ends of this continuum are important, and schools should integrate them whenever possible to produce the best balance between the two models of learning.*
The Big Ideas Underlying The SEM

• Focus On Creative Productivity, An Investigative Mindset, And Co-Cognitive Characteristics

• General Enrichment For All Students and Targeted Enrichment and Acceleration For Students Who Demonstrate Advanced Potential
A Focus On Creative Productivity and Total School Improvement

How we differ from other gifted education and talent development models...

The Enrichment Triad Model

Curriculum Compacting For High Achieving Students
What do we mean by Co-Cognitive Characteristics?

Creative Thinking
Critical Thinking
Problem Solving
Decision Making
Productive Thinking

Planning
Forecasting
Writing
Literacy
Numeracy

Opportunities For Creative Productivity

Contributing To Social Capital & Making A Better World

• Optimism
• Courage
• Romance With a Topic or Discipline
• Mental and Physical Energy
• Vision & A Sense of Destiny
• Sensitivity To Human Concerns

Leadership Based on Wisdom & Responsibility

• Personal
• Emotional
• Spiritual
• Social
• Motivational
• Responsible
• Organizational
  “Getting your act together”
• Self-Regulation

Focusing & Filtering

• The ability to identify trustworthy and useful information
• The ability to selectively manage overabundant information
• The ability to organize, classify, and evaluate information
• The ability to conduct self-assessments of web-based information
• The ability to use relevant information to advance the quality of one’s work
• The ability to communicate information effectively

http://edudemic.com/2012/07/10-interactive-lessons-by-google-on-digital-citizenship/
What do we mean by creative productivity?
In first grade Kylie Copenhagen invented a board game about ladybugs for a school science project. Today, “The Ladybug Game” is consistently one of the top-selling games at Target.com, where it competes with thousands of other games and puzzles. “The Ladybug Game” has also been a bestseller at some of the nation's largest retailers including Target and Toys R Us.

Kylie fell in love with ladybugs during a school science project. “In Mrs. Ditto’s class I learned that ladybugs are the coolest thing around,” says Kylie. “Since my friends liked them too, I invented a game about them. It’s fun for me to know that other kids love my game as much as I do. I receive a royalty payment for each game sold, and is well on her way to covering her college tuition.

The Ladybug Game is designed for interactive play between parents and children ages three and up. The game begins with a lively introductory story about the adventures of four ladybugs – Ella Yellow, Rickie Red, Tommy Teal and Olivia Orange. The object is to help the ladybugs find their way back home (a rosebush) after a windstorm launches them airborne and they land on a faraway dirt pile. The first ladybug to find her way “home” is the winner. Along the way, the ladybugs encounter various hazards such as tall grass, praying mantis’, aphids and ants. In addition to Target and K-Mart, The Ladybug Game is also available at Meijer, Go! The Game Store, Barnes and Noble, Borders Books & Music, Fred Meyer, Toys R Us and more.
Type II: How-To Books

- Table Games: How to Make and Play Them
  Marran, Ray J.

- The Kobold guide to BOARD GAME DESIGN
  by Mike Selinker
  "I wish I had a book like this twenty years ago." - Bruce Futrell, designer of Catan

- Rules of Play
  Game Design Fundamentals
  Salen, Katie | Zimmerman, Eric
Ages 3-7

The Ladybug Game™

BUY NOW!

A New Adventure Every Time You Play!

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terms of use • privacy policy • media contact
CONTENTS
Gameboard • 4 Ladybug pawns and stands • 61 Aphid chips • 38 Ladybug cards (33 Moving cards, 5 Aphid cards) • 8 Praying Mantis passes

Download the rules (PDF)

Ages 3 & Up For 2-4 players
In Support of Deeper Learning for All Students

When I was in fifth grade, I was in a gifted and talented program in a small town in south Georgia. Each Friday, we were pulled from our regular classroom and bused to another school where we explored subjects like botany, engaged in interesting art projects, and went on special field trips. At least one of those experiences had an impact on my future; a fascinating field trip to a museum exhibit on Ramses the Great sparked my life-long interest in history and laid the groundwork for two years of teaching in Cairo, Egypt.

As a ten-year-old enjoying these engaging learning experiences, I remember wondering why all my classmates didn't get to have these opportunities. Read more.
The Big Ideas Underlying the SEM

- Focus On Creative Productivity, An Investigative Mindset, And Co-Cognitive Characteristics

- General Enrichment For All Students and Targeted Enrichment and Acceleration For Students Who Demonstrate Advanced Potential

- Maintenance of Specially trained Personnel And Existing Programs and Services
The Schoolwide Enrichment Team

Relationship Between the SEM and Existing Gifted Program

Teacher Trained in G/T Pedagogy (Acceleration, Enrichment, Etc.)

Enrichment Infusion Into The Regular Curriculum

Knocking Down The Brick Wall
The Big Ideas Underlying the SEM

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- Practice Driven, Theory Based, Research Supported
Reasons why SEM programs have been successful?

A Orientation That Starts With The Practitioner.

Theory
Research
Practice

Theory Based
Research Supported
Practice Driven

TEACHERS KNOW THE MOST ABOUT WHAT WILL WORK IN THE CLASSROOM.
Research And Development On The Schoolwide Enrichment Model

See Article by Reis at:
http://gifted.uconn.edu/schoolwide-enrichment-model/semresearch/
A Meta-Analysis of the Effects of Enrichment Programs on Gifted Students

Mihyeon Kim¹

Abstract
Although descriptions of enrichment programs are valuable for practitioners, practices, and services for gifted students, they must be backed by evidence, derived through a synthesis of research. This study examined research on enrichment programs serving gifted students and synthesized the current studies between 1985 and 2014 on the effects of enrichment programs. A total of 26 studies were included in this meta-analysis, and the findings show that enrichment programs had a positive impact on both gifted students’ academic achievement ($g = 0.96$, 95% CI [0.64, 1.30], under a random-effects model) and socioemotional development ($g = 0.55$, 95% CI [0.32, 0.79], under a random-effects model). Regarding moderators of the effects, types of programs, and grade levels influenced both effect sizes of academic achievement and socioemotional development. The largest effect size was observed for summer residential programs in terms of academic achievement and for a combination of summer and academic year program in terms of socioemotional development.

Keywords
meta-analysis, enrichment programs, gifted students, evaluation
At Weems, more than 70 percent of students are categorized as economically disadvantaged and nearly 60 percent are identified as English learners.

### Middle School Follow-Up Records

#### Reading:
- **Weems graduates:** 80%
- **Other 4 feeder schools:** 68.2%

#### Math:
- **Weems graduates:** 85.33%
- **Other 4 feeder schools:** 74.82%

#### Science:
- **Weems graduates:** 81.330%
- **Other 4 feeder schools:** 70.28%

Also, if you look at the run of the past few years we have been building up as well.

**Reading**
- Weems graduates performed in the negative (-) in the 3 years prior to adopting SEM and flipped to +12 point gain in 2014-15. The other elementary graduates made a 2014-15 +6 jump whereas Weems made a +19 point jump.

**Math**
- Weems Outperformed in the negative before SEM years and flipped to +2 in 2013-14 and then +11 in 2014-15. The other feeder schools made a +6 jump 2014-15 whereas Weems graduates made a +15 jump.
Graph 1: Reading Subgroup Achievement

Weems Compared to State Averages
Graph 2: Math Subgroup Achievement

Weems Compared to State Averages
Governor McAuliffe Announces Recipients of the Inaugural Governor’s Awards for Excellence and Innovation in Education

Virginia recognizes outstanding individuals, schools and programs

RICHMOND – Governor McAuliffe today announced the first recipients of the Governor’s Award for Excellence and Innovation in Education. This new initiative recognizes outstanding educators and leaders, schools, divisions, and community partners across five categories: closing the achievement gap, community partnerships and collaboration, innovation in education, preparing students for the new Virginia economy; and supporting school readiness. Out of more than 120 nominations, 13 were selected for recognition and honored at the Executive Mansion last night. The award categories and recipients are as follows:

Closing the Achievement Gap

Weems Elementary School

Under the leadership of Principal Dave Rupert, Weems Elementary staff has improved student achievement through the school’s unique Talents and Gifts program.
Dominic Cipollone, Principal
Middle School 219
Bronx, New York

Test results since the implementation of the Renzulli Learning System in 2006

<table>
<thead>
<tr>
<th>Level</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
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<td>Level 4</td>
<td>0.5</td>
<td>0.6</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Level 3</td>
<td>18.5</td>
<td>27.3</td>
<td>23.3</td>
<td>45</td>
</tr>
<tr>
<td>Level 2</td>
<td>58</td>
<td>63.1</td>
<td>64.7</td>
<td>51</td>
</tr>
<tr>
<td>Level 1</td>
<td>23</td>
<td>9</td>
<td>12</td>
<td>4</td>
</tr>
</tbody>
</table>
Test results since the implementation of the Renzulli Learning system in 2006.
Three Economists From Holland

Adam Booij

Ferry Haan

Eric Plug

Recent research from the perspective of economic growth...

We find that students obtain higher grades, follow a more science intensive curriculum (most notably for girls), and report stronger beliefs about their academic abilities. We also find that these positive effects persist in university, where students choose more challenging fields of study with, on average, higher returns. Together, these findings are consistent with a human capital interpretation of GT education. GT education increased the average starting salary ... Our most conservative calculations suggest that the labor market benefits of GT education are far greater than its costs.
Research shows that the 3 Es produce higher achievement scores than test-prep.

(Renzulli, 2004)
The Big Ideas Underlying the SEM

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- General Enrichment For All Students and Targeted Enrichment and Acceleration For Students Who Demonstrate Advanced Potential

- Maintenance of Specially trained Personnel
  Existing Programs and Services

- Practice Driven, Theory Based, Research Supported

- Common Goals/Unique Means
Common Goals – Unique Means

All roads lead to Rome...

But there are many ways to get to Rome...

Most innovations fail because we know more about what we’re against than what we stand for.

“If one does not know to which port one is sailing, no wind is favorable.” Seneca
The Big Ideas Underlying the SEM

- Focus On Creative Productivity And An Investigative Mindset
- General Enrichment For All Students and Targeted Enrichment and Acceleration For Students Who Demonstrate Advanced Potential
- Maintenance of Specially trained Personnel Existing Programs and Services
- Practice Driven, Theory Based, Research Supported
- Common Goals/Unique Means
- Abundant Resources And Teacher Training
Practical Resources For The Two Main Theories

The Three Conception of Gildedness

The Enrichment Triad Model

The Art of Schoolwide Enrichment

Multiple Menu Model

THINK DATA

Opening Doors Administrator’s Guide

Enrichment Clusters

Teaching Research Skills in Grades K-12

The Schoolwide Enrichment Model

Curriculum Compacting

Type I: General Enrichment Activities

Type II: Group Training Activities

Type III: Individual & Small Group Investigations of Real Problems
Join us for our 41st year of professional development in enrichment, talent development, & differentiation!

The Schoolwide Enrichment Model (SEM) is the foundation of Confratute, where teachers and administrators learn how to make schools places for talent development using innovative ideas, creative applications, and networking with others who have implemented the model.

Confratute offers:

**IN-DEPTH TRAINING** in:
- The Schoolwide Enrichment Model
- Differentiation & Curriculum Compacting
- Underachievement
- Enrichment Infusion into the Regular Curriculum
- Cluster Grouping
- Enrichment Clusters
- Innovative Technology Applications

**A VARIETY OF STRANDS** that are intensive, week-long mini courses.

**MINI-KEYNOTES** about relevant research and trends in regular and gifted education.

**INVITED SPEAKERS** who are authors and researchers such as Joseph Renzulli, Sally Reis, Susan Baum, Marcia Gentry, Sandra Kaplan, Jann Leppien, Rachel McAnallen, and Del Siegle.

**SPECIAL TOPIC SESSIONS** on a variety of topics such as creativity, thinking skills, underachievement, and more.

**EVENING FORUM SESSIONS** to help you develop individual action plans for talent development and differentiation.

**SEM LEADERS FORUM** strands on curriculum development and more, designed for principals and administrators.
Renzulli Learning is now available in multiple languages

Renzulli Learning
Proven Differentiation

Renzulli Aprendizaje
Diferenciación comprobada

Renzulli 学习法
个性化学习

Renzulli للتعليم
تعليم شخصي

English - Spanish - Chinese - Arabic
More languages coming soon!
The Big Ideas Underlying the SEM

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• Common Goals/Unique Means

• Abundant Resources And Teacher Training

• Making Schools A Happy Place For All Students

“Example is the best school of mankind and they will learn at no other.”
Philosopher, Edmund Burks
Hi Sally,

My pleasure! We are always happy to assist. BELL Academy has become increasingly diverse over the years. Ensuring all levels of students are experiencing quality SEM learning experiences has become a critical focus for us. Our admissions policy (lottery) is designed to include all levels of learners, including those with special needs. We are up to 25% of students with IEPs. The fact that we have demonstrated a positive trajectory in ELA and Math proficiency over the years is one way hard data supports the impact of SEM on diverse learning communities. **Soft data would include how happy our kids are, via their smiles! 😊**

We look forward to hosting the visit for Nancy and her team on December 14th!

Wishing you and Joe all the best during the holiday season, and we hope to see you soon.

Sincerely,

David

*David M. Abbott*
*Principal*
*BELL Academy*
Not every child has an equal talent or an equal ability or equal motivation; but all children have the equal right to develop their talent, ability, and motivation to the fullest.

John F. Kennedy
In the modern global economy, industrial, educational, and political leaders are increasingly looking for personnel with skills in imagination, creativity, and innovation. Educational leaders in all nations are beginning to realize an emphasis on creativity is the key to maximizing economic and cultural growth and social progress for all their citizens.

The Why & The Who Questions
There is an economic imperative behind teaching creativity thinking skills, and innovation as much as there is a philosophical and humanitarian one. Nations are as reliant on the ability of their citizens to create new forms of value as businesses are on the creative skills of their employees. This is something the Chinese government and governments around the world have realized...


Why do we need to reexamine the mission of gifted education?

They’re Stealing our Thunder! It’s Time for Us To Strike Back

Traditional Goals of gifted Education:
• Creative Thinking • Critical Thinking • Problem Solving • Decision Making
• Higher Level Thinking Skills • Analysis • Synthesis • Evaluation
• Problem Based Learning

From The report: “21st Century Skills, Education & Competitiveness”

Public education has traditionally thought of higher level thinking as the purview of talented and gifted programs, while the teaching of basic skills was geared toward those on a trade track in high schools. Now, the focus must be on making sure all students have a broad array of these skills in addition to strong grounding in core subjects.

Our understanding that everyone needs to critically think and problem-solve has been heightened when you look at what success will require in the global economy.
The latest round of international standardized test results showed American students are lagging behind the rest of the developed world not just in math, science, and reading, but in problem solving as well. The 2016 Program for International Student Assessment (PISA) test examined 44 countries’ students’ problem-solving abilities.

American students landed just above the average, but they still scored below many other developed countries, including Britain, Singapore, Korea, Japan, China, and Canada.

Another reason why we need to examine the ways in which we look at identification and programming practices...
Sir John Gurdon
Winner of the Nobel Prize In Medicine for his pioneering work in cloning and stem cells
As a 15-year-old schoolboy John Gurdon was told that a career in science was “ridiculous.” The following is a report by one of his teachers that he keeps over his desk to this day.

SCIENCE REPORT

NAME GURDON

Divison D12  Subject Biology.

Place □ □ □ □ Marks □ □ □ □ □ □ □ □

It has been a disastrous half. His work has been far from satisfactory. His prepared stuff has been badly learnt, and several of his test pieces have been torn over; one of such pieces of prepared work scored 2 marks out of a possible 50. His other work has been equally bad, and several times he has been in trouble, because he will not listen, but will insist on doing his work in his own way. I believe he has ideas about becoming a Scientist; on his present showing this is quite ridiculous, if he can't learn simple Biological facts he would have no chance of doing the work of a Specialist, and it would be sheer waste of time, both on his part, and of those who have to teach him.

C[ Signature ]
His work has been far from satisfactory. His prepared study has been badly learnt and several of his test pieces have been torn over. One such piece of prepared work scored 2 marks out of a possible 50. His other work has been equally bad, and several times he has been in trouble, because he will not listen, but will insist on doing his work in his own way. On his present showing this is quite ridiculous. If he can’t learn simple Biological facts he would have no chance of doing the work of a scientist, and it would be sheer waste of time, both on his part, and those who would have to teach him. I believe he has ideas about becoming a scientist: on his present showing this is quite ridiculous.
Other Persons Who Were Considered School Failures

Percey Bysshe Shelley

Salvador Dali

Robert Frost

Wm. Randolph Hearst

Humphrey Bogart

Ted Turner

Albert Einstein
Walt Disney was fired by a newspaper editor because “he had no good ideas.” He went on to create Mickey Mouse, Donald Duck, the Disney Studios, Disneyland; his greatest dream, EPCOT Center opened in 1982.

Thomas Edison’s teachers called him “too stupid to learn.” He made 3,000 mistakes on his way to inventing the light bulb. Eventually he held 1,093 patents.
Louisa May Alcott was told by an editor that she would never write anything popular. More than a century later, her novels are still being read, and the Children’s Literature Association (an international group of librarians, teachers, authors, and publishers) considers *Little Women* on the best American children’s books of the past 200 years.
Practically every day someone at the restaurant asks its 66-year-old owner if she always knew her son was a genius. “when he was growing up,” Leah replies, I didn’t know what the hell he was. I’m really ashamed, but I didn’t recognize the symptoms of his talent. For one thing – and he’ll probably take away my charge account for saying this – he was never a good student. Once, his teacher told me I should put him in a special education class and he was turned down every time he applied to USC’s cinema school.

“He wasn’t exactly cuddly,” Leah adds. “He was scary. When he woke up from a nap I shook all over.” He was a master at creating terror. He practiced on his three sisters. “He used to stand outside their windows at night, howling, “I am the moon! I am the moon!” says Leah. ”They’re still scared of the moon to this day. And he cut off the head of his sister Nancy’s doll and served it to her on a bed of lettuce.”

“His room was such a mess, you could grow mushrooms on the floor.” “Once his lizard got out of it’s cage, and we found it – living – three years later. He had a parakeet he refused to keep in a cage. It was disgusting. Once a week, I would stick my head in his room, grab his dirty laundry and slam the door.”

If I had known better, I would have listened to his teachers and taken him to a psychiatrist, and there probably never would have been an E.T.”
Target Populations

Group I
Top 5% Identified by State Criteria

Group II
15-20% Identified by Achievement Levels and Non-Test Criteria

Group III
75-80% General Population

Group IV
Twice Exceptional Students

Target Populations

- Above Average Ability
- Creativity
- Task Commitment
What is Creative/Productive Giftedness and Why Is It Important?

A Few Examples...
Two Types of Giftedness

High Achieving Giftedness

Creative/Productive Giftedness
An Example That Illustrates All Four of the Sub-Theories In Action

My name is Brooks McConnell. I am in the fifth grade at Norfeldt Elementary School in West Hartford, CT. Last fall I was watching The Katie Couric Show with my mom and noticed you and your son, Sam. I recall that Sam wanted to ride roller coasters but he couldn’t because of his disease, progeria. I wondered if there would ever be a way for kids like him to ride roller coasters? Well, I think I’ve figured a way out.
For a year long school project, my topic was roller coasters. When I saw Sam, I thought that a roller coaster simulator would be a nice addition to theme parks around the world. So, I constructed a simulator using objects from around the house. My simulator is a chair that has a back massager that vibrates your back. The rider would then put on a vest with weights in the pockets. The weights in the pockets would then simulate the weight transfers throughout a ride, meaning that the weights would come in and out during the ride. This is a way people like Sam can experience the ride because the regulated force is on the outside of the body, not the inside. The physical experiences would all go on in front of a visual roller coaster video. The sounds of the ride would be pre-recorded and played into headphones. The simulator would be located next to an amusement park’s most popular roller coaster.
Type II Enrichment
I have already sent the idea to three major roller coaster companies hoping they can expand on the idea. When I was searching the internet for your address so I could write to you, I heard about Sam’s passing. My mom and I were so sorry to read that. I would like to thank you, and him, for being such an inspiration to me and the world. Even though my simulator can’t be ridden by Sam, I am hopeful that other kids around the world with progeria or any other diseases that might prevent them from enjoying the thrill of the ride will get a chance to in the future.

Dear Bolliger & Mabillard,

The simulator that I created includes a video that is filmed the front seat of a roller coaster. The rider’s seat vibrates in order to simulate a rough chain lift. With my simulator, the rider wears a vest with weights in each pocket. Throughout the experience an operator adds and removes the weights in order to create the experience of different G-forces on the rider’s body. This concept of adding and subtracting weights on the outside of the body instead of the inside is meant to recreate the G-force experience.

Enclosed are photos of the roller coaster simulator that I created along with a model that I built. I hope you like this idea as much as I do. Thank you for your consideration.

Sincerely,

Brooks McConnell
Eric Fossum

Two Major Interests as a teenager:
Photography
Computer Electronics

Student in a Connecticut SEM Program
Interested in computers and photography
Attended Trinity College in Hartford
Yale for graduate school
Worked at NASA’s jet propulsion lab where he used computer chips for photography
Started work on an invention just approved by the FDA (and that will make you very happy!)
Changing the way the world fights cancer.
February, 2015
Pill Camera to Check Colon
Approved by FDA
Another enrichment program graduate from Connecticut Interested in computers and photography Attended Trinity College in Hartford and Yale for graduate school Worked at NASA’s jet propulsion lab where he used computer chips for photography.
Fossum is one of four engineers awarded the £1 million Queen Elizabeth Prize his invention.
4 Curriculum Compacting

Curriculum Modification Procedure For High Achieving Students
Modifying The Regular Curriculum For High Achieving Students

A "BELL CURVE" SEATING CHART.

From *Get Off My Brain*, by Randy McCutcheon, illustrated by Pete Wagner
Susan, please put away Moby Dick. It’s time for your silent “e” review sheet.
## Individual Educational Programming Guide

**The Compactor**

<table>
<thead>
<tr>
<th>Curriculum Areas to Be Considered for Compacting</th>
<th>Procedures for Compacting Basic Material</th>
<th>Acceleration and/or Enrichment Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide a brief description of basic material to be covered during this marking period and the assessment information or evidence that suggests the need for compacting.</td>
<td>Describe activities that will be used to guarantee proficiency in basic curricular areas.</td>
<td>Describe activities that will be used to provide advanced-level learning experiences in each area of the regular curriculum.</td>
</tr>
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### Name It

### Prove It

### Change It

---

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# INDIVIDUAL EDUCATIONAL PROGRAMMING GUIDE
## The Compactor

### NAME
Alison

### AGE
6

### TEACHER(S)

### SCHOOL

### GRADE
1

### PARENT(S)

### CURRICULUM AREAS TO BE CONSIDERED
**FOR COMPACTING**
Provide a brief description of basic material to be covered during this marking period and the assessment information or evidence that suggests the need for compacting.

**Holt Basic Reading Series** - Levels 3-6, as determined by Holt level tests. Alison has mastered most of the comprehension and phonetic objectives introduced in these levels.

**Individualized Spelling Program by Economy** - Alison has mastered Levels 1-4. She will be placed in Level 5.

**Math** - As determined by the first grade Math placement test, Alison has mastered most of this curriculum. She will begin her Math program in the 2nd grade classroom.

### PROCEDURES FOR COMPACTING BASIC MATERIAL
Describe activities that will be used to guarantee proficiency in basic curricular areas.

**Capital letters and periods** - Teacher made worksheets.

**Continental Press**. Alison will participate in classroom activities dealing with these skills. Check proficiency by Holt level 6 test. Capital letters and periods - pg 27.

**Contractions - Level 7 Teacher's Manual pages 81**

119, 175, 216, 217, and 255-256. Check proficiency by Holt Level 7 test (Contractions).

**Change y to i and add es/and other plural forms** - Level 1 Teacher's Manual pages 202 and 293-294.

9 Teacher's Manual pages 222-223, 246, 311. Check proficiency by Holt Level 9 test and reading consultant-made test for these plural forms not covered in the Level 9 test.

**Compound Words - Level 9 Teacher's Manual pages**

77, 267. Check for proficiency - Level 9 test page 9 (compound words).

**Pronouns - Level 9 Teacher's Manual page 325**

Check for proficiency - Level 9 test (language skills) page 9.

### ACCELERATION AND/OR ENRICHMENT ACTIVITIES
Describe activities that will be used to provide advanced level learning experiences in each area of the regular curriculum.

**Classroom**
Alison's classroom teacher will use the language experience approach. Various reading and writing programs on the Apple computer will be used with Alison. Scholastic Individual Reading Kit will provide

**Talcott Mt. Science Center**
Alison will participate in Science programs presented in school—Crystals, weather, forest life, aerial photos and mountains, snow, planets and constellations.

**TAC Resource Room**
Critical thinking skills, creative thinking skills, creative problem solving, critical problem solving, Type III independent study.

---

☐ Check here if additional information is recorded on the reverse side.

---

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A Multiple Criteria Strength Based Identification System

High Achieving Giftedness

Creative/Productive Giftedness
The Three Ring Conception of Giftedness

Comprehensive Strength Assessment

- Academic Strength Assessment (Achievement Tests + SRBCSS)
- Interest Assessment (I-A-L)
- Learning Styles Assessment (LSI)
- Expression Styles Assessment (My Way)
- Assessment of Co-cognitive Functions (Leadership & Executive Functions)
Two Types of Identification Information

1. **Status Information** -- Anything you can measure and put down on paper beforehand that tells you something about the student.

2. **Action Information** -- Student performance that you can only document when an activity is taking place or after it has happened.
2A. Underlying Theory of Human Potential – Comprehensive Student Strength Assessment

Imagination is more important than knowledge. Albert Einstein

The artist is nothing without the gift, but the gift is nothing without the work. Emile Zola

In Certain People At Certain Times Within Certain Circumstances

Above Average Ability
Creativity
Task Commitment
Sample Identification Instruments and Identification System Based On The Three Ring Conception

**Interests**

- Art Gallery
- Professional Sport Training Camp
- Historical Sites
- Stock Market
- Television Studio
- Planetarium
- Telecommunications Center
- Symphony Orchestra
- 3-Dimensional Multi-Media Film
- Science Center
- Ballet or Modern Dance
- Musical Concert
- State Senate Meeting
- Computer Center
- Court Room
- Zoo
- Stage Play
- Newspaper Office

**Learning Styles**

1. Going to the library with a committee to look up information.
2. Studying on your own to learn new information.
3. Having the teacher ask the class questions on work that was assigned to be studied.
4. Having a class discussion on a topic suggested by the teacher.
5. Having other students who are experts on a topic present their ideas to the class.

**Expression Styles**

- My Way... An Expression Style Inventory

**Co-Cognitive Factors**

- Operation Houndstooth Co-Cognitive Factor Scales

**Executive Functions**

- Characteristic
- 1
- 2
- Goal Oriented
- Decision Maker
- Able to Plan Ahead
- Possesses Good Etiquette
- Ethical
- Able to Follow Through with Tasks
- Copes Well with Set-Backs
- Persistent
- Creative
- Generates Ideas
- Defers Gratification
Total Talent Pool Consists of Approximately 15% of the General Population

Renzulli Identification System

Step 1
Test Score Nominations
[Automatic, and Based on Local Norms]

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Test Score Nominations</th>
</tr>
</thead>
<tbody>
<tr>
<td>99th %ile</td>
<td>[Automatic, and Based on Local Norms]</td>
</tr>
<tr>
<td>92nd %ile</td>
<td></td>
</tr>
</tbody>
</table>

Step 2
Teacher Nominations
[Automatic Except in Cases of Teachers Who Are Over or Under Nominators]

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Teacher Nominations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[Automatic Except in Cases of Teachers Who Are Over or Under Nominators]</td>
</tr>
</tbody>
</table>

Step 3
Alternative Pathways
Case Study

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Alternative Pathways</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case Study</td>
</tr>
</tbody>
</table>

Step 4
Special Nominations
Case Study

<table>
<thead>
<tr>
<th>Step 4</th>
<th>Special Nominations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case Study</td>
</tr>
</tbody>
</table>

Step 5
Notification of Parents

<table>
<thead>
<tr>
<th>Step 5</th>
<th>Notification of Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

Step 6
Action Information Nominations

<table>
<thead>
<tr>
<th>Step 6</th>
<th>Action Information Nominations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Renzulli Identification System
By Areas, Across Grade Level Bands, Using Multiple Criteria That Include Interests and Learning Styles as well as Abilities.
The Sciences

- Ecology
- Biology
- Astronomy
- Chemistry
- Physics
  - Electronics
  - Mechanics
  - Optics
  - Etc.
The Impacted Urban Issue...
Underlying Theories of Knowledge and Differentiation
Short Quiz

1. What are the “raw materials” for baking bread?

2. What are the “raw materials” for learning?
   
   Knowledge
   Experience
   Doing things!
certificate of completion
presented to Joe Renzulli for successfully completing a course in *Artisan Baking at Home* held July 18 through July 21, 2011.

[Signature]

Susan Miller
School Director, King Arthur Flour
Underlying Theory of Blended Knowledge

Two Sources of Knowledge:
- To-Be-Presented Knowledge
- Just-In-Time Knowledge

Three Types of Knowledge
1. Received Knowledge (Content)
   - (Lectures, Textbooks, Worksheets, Internet, TV, & Other Media)
2. Analyzed Knowledge (Process)
   - (Labs, Debates & Discussions, Open-ended Problems, Creativity Training & Critical Thinking Exercises)
3. Applied & Created Knowledge (Application)
   - (Research Projects, Investigative Learning Activities, Product & Performance Creations)

Applied To:
- Standard Comprehension & Achievement Test Scores
- Thinking & Creative Problem Solving, and Digital Literacy Skills
- Visual, Oral, Written, & Constructed Projects, Performances and Presentations

Three Uses of Knowledge
The Big Mistake
When Using Bloom’s Taxonomy

That’s not the way the Brain works!

1. **Knowledge**: remembering or recalling appropriate, previously learned information to show out factual (usually right or wrong) answers. Use words and phrases such as: how many, when, where, list, define, tell, describe, identify, etc., to draw out factual answers, testing students' recall and recognition.

2. **Comprehension**: grasping or understanding the meaning of informational materials. Use words such as: describe, explain, estimate, predict, identify, differentiate, etc., to encourage students to translate, interpret, and extrapolate.

3. **Application**: applying previously learned information (or knowledge) to new and unfamiliar situations. Use words such as: demonstrate, apply, illustrate, show, solve, examine, classify, experiment, etc., to encourage students to apply knowledge to situations that are new and unfamiliar.

4. **Analysis**: breaking down information into parts, or examining (and trying to understand the organizational structure) of information. Use words and phrases such as: what are the differences, analyze, explain, compare, separate, classify, arrange, etc., to encourage students to break information down into parts.

5. **Synthesis**: applying prior knowledge and skills to combine elements into a pattern not clearly there before. Use words and phrases such as: combine, rearrange, substitute, create, design, invent, what if, etc., to encourage students to combine elements into a pattern that's new.

6. **Evaluation**: judging or deciding according to some set of criteria, without real right or wrong answers. Use words such as: assess, decide, measure, select, explain, conclude, compare, summarize, etc., to encourage students to make judgments according to a set of criteria.
Creativity isn’t about freedom from concrete facts. Rather, fact-finding and critical thinking are vital at each stage in the creative process. P. Bronson & A. Merryman

Applied to:
- Increased Academic Performance & Graduate School Applications
- Thinking & Creative Problem Solving Skills
- Digital Literacy
- Visual, Oral, Written & Constructed Projects, Performances and Presentations
Content Modifications
- More Material
- More Drill & Practice
- Easier Material
- Greater Depth & Complexity
- Student or Teacher Selected Enrichment Opportunities Related To A Topic or Unit of Study

Technology
- On-line Courses
  - Blogs, Wikis, Podcasts
  - RSS Feeders, Screencasts
- Flickr, Twitter
- Social Networking Sites
- Renzulli Learning System

Learning/Teaching Styles:
- Lecture, Discussion, Peer Tutoring, Simulations
- Socratic Inquiry, CAI, Dramatization, Problem Based Learning, Guided & Unguided Independent Study

Expression Styles:
- Oral, Visual, Graphic, Manipulative, Artistic, Written, Multi-Media, Service, Combinations of the Above

Classroom Organization:

Grouping by:
- Interests, Skill Levels, Ability, Within & Across-Grade Cluster Grouping, Common Tasks/Projects, Complimentary Talents, Cooperative Learning

Classroom Organization:

Theory of Personalized Learning
Five Dimensions of Differentiation
(JSR: 1996)
**Blending Levels of Knowledge**

**Two Kinds of Knowledge:**
- To-Be-Presented Knowledge
- Just-In-Time Knowledge

**Received Knowledge (Content):**
(Lectures, Textbooks, Worksheets, Internet, TV, & Other Media)

**Analyzed Knowledge (Process):**
(Labs, Debates & Discussions, Open-ended Problems, Creativity Training & Critical Thinking Exercises)

**Applied & Created Knowledge (Application):**
(Research Projects, Investigative Learning Activities, Product & Performance Creations)

**Applied To:**
- Standard Comprehension & Achievement Test Scores
- Thinking & Creative Problem Solving Skills
- Digital Literacy
- Visual, Oral, Written, & Constructed Projects, Performances and Presentations

**Outputs**
“In words you’ll understand, You’re not downloading enough content to play at the next level.”

How The Brain Deals With Different Levels of Knowledge

Using Verbs To Make A Better Brain

Applied To:
- Standard Comprehension & Achievement Test Scores
- Thinking & Creative Problem Solving Skills
- Digital Literacy
- Visual, Oral, Written, & Constructed Projects, Performances and Presentations

[JSR: 11-12]
Typical Verbs Used for Raising Questions About Three Kinds of Knowledge

<table>
<thead>
<tr>
<th>Words Uses to Prompt Received Knowledge Learning</th>
<th>Words Uses to Prompt Analyzed Knowledge Learning</th>
<th>Words Uses to Prompt Created Knowledge Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define</td>
<td>Explain</td>
<td>Point out</td>
</tr>
<tr>
<td>State</td>
<td>Interpret</td>
<td>Defend</td>
</tr>
<tr>
<td>Describe</td>
<td>Demonstrate</td>
<td>Differentiate</td>
</tr>
<tr>
<td>Identify</td>
<td>Conclude</td>
<td>Reconstruct</td>
</tr>
<tr>
<td>Label</td>
<td>Compare</td>
<td>Reorganize</td>
</tr>
<tr>
<td>List</td>
<td>Contrast</td>
<td>Construct</td>
</tr>
<tr>
<td>Match</td>
<td>Categorize</td>
<td>Devise</td>
</tr>
<tr>
<td>Outline</td>
<td>Design</td>
<td>Illustrate</td>
</tr>
<tr>
<td>Memorize</td>
<td>Speculate</td>
<td>Infer</td>
</tr>
<tr>
<td>Point to</td>
<td>Interpret</td>
<td>Compose</td>
</tr>
<tr>
<td>Recall</td>
<td>Relate</td>
<td>Construct</td>
</tr>
<tr>
<td>Select</td>
<td>Predict</td>
<td>Infer</td>
</tr>
<tr>
<td>Name</td>
<td>Estimate</td>
<td>Paraphrase</td>
</tr>
<tr>
<td>Label</td>
<td>Extrapolate</td>
<td>Translate</td>
</tr>
<tr>
<td>Arrange</td>
<td>Reconstruct</td>
<td>Evaluate</td>
</tr>
<tr>
<td>Report</td>
<td>Hypothesize</td>
<td>Defend</td>
</tr>
<tr>
<td>Give examples</td>
<td>Design</td>
<td>Justify</td>
</tr>
<tr>
<td>Calculate</td>
<td>Critique</td>
<td>Organize</td>
</tr>
<tr>
<td>Repeat</td>
<td>Distinguish between</td>
<td>Formulate</td>
</tr>
<tr>
<td>Tell</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognize</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Learn

Think

Apply

- Set Goals
- Plan Project (e.g., time lines, needed resources, action steps, intended outcomes, products, audiences)
- Write (e.g., story, essay, proposal, musical score)
- Interview
- Investigate
- Design
- Formulate
- Construct
- Gather Data
- Organize
- Produce
- Schedule
- Prioritize
- Supervise
- Organize
- Negotiate
- Monitor
- Publicize
- Communicate
- Budget

Theory into practice...
General Questions That Promote *Applied* Investigative And Creative Thinking

What can you build?
What can you design?
What can you develop?
What can you plan?
What can you produce?
How could you modify?
What could you invent?
What kind of study could conduct to influence others?
What kind of original text, video, graphic, display could you produce?
How could you get people to buy, use, promote or sell this?
How can you change people’s minds?
How can you present, teach, display?
Theory Into Practice

The Enrichment Triad In Action
TYPE I ENRICHMENT
General Exploratory Activities
Learn about new topics and interest through:
Guest Speakers
Internet, Facebook, Twitter
Visitations & Virtual Field Trips
DVDs & Videos
Computer Programs
Interviews
Casual Conversations
Books, Magazines, Television
Dynamic Curriculum Experiences
Letter Writing
Observation of The World Around Us

TYPE II ENRICHMENT
How-To Training Activities

TYPE III ENRICHMENT
Individual & Small Group Investigations of Real Problems
Students become “experts” through hands-on activities that use creativity and research skills to solve real-world problems. Creative products are shared with appropriate audiences.

“The young person thinking, feeling, and doing like the practicing professional, even if at a more junior level.”

Theory Into Practice
Type I
Enrichment
Type I: Debriefing

What did you find interesting about the presentation?

Did this presentation raise any questions in your mind?

What else would you like to know?

Where could we find more information about this topic?

Are there any careers that this presentation makes you think of?

What good ideas can you share about projects, research studies, creative writing, etc. that might be used to learn more about this topic?

Would anyone like to meet with me individually to explore possible follow ups to this Type I?
# TAXONOMY OF COGNITIVE & AFFECTIVE PROCESSES
(The "Type II Matrix" JSR: 2001)

## I. Cognitive Thinking Skills
- A. Creative Thinking Skills
- B. Analytic, Problem-Solving & Decision-Making Skills
- C. Critical and Logical Thinking Skills

## II. Character Development and Affective Process Skills
- A. Character Development
- B. Interpersonal Skills
- C. Intrapersonal Skills

## III. Learning How-To Learn Skills
- A. Listening, Observing, & Perceiving
- B. Reading, Notetaking, & Outlining
- C. Interviewing & Surveying
- D. Analyzing & Organizing Data

## IV. Using Advanced Research Skills & Reference Materials
- A. Preparing for Research & Investigative Projects
- B. Library & Electronic Reference
- C. Finding & Using Community Resources

## V. Written, Oral, and Visual Communication Skills
- A. Written Communication Skills
- B. Oral Communication Skills
- C. Visual Communication Skills

## VI. Meta-Cognitive Technology Skills
- The ability to identify trustworthy and useful information
- The ability to selectively manage overabundant information
- The ability to organize, classify, and evaluate information
- The ability to conduct self-assessments of web-based information
- The ability to use relevant information to advance the quality of one’s work
- The ability to communicate information effectively
### Planning Matrix for Organizing and Teaching Type II Skills With Commercial Enrichment Materials

#### I. Cognitive Training

<table>
<thead>
<tr>
<th></th>
<th>K-3</th>
<th>4-8</th>
<th>9-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Creative Thinking Skills</strong></td>
<td><strong>Be An Inventor</strong>&lt;br&gt;<strong>Brainstorming: The Book of Topics</strong>&lt;br&gt;<strong>Creativity 1, 2, 3</strong>&lt;br&gt;<strong>New Directions in Creativity: A</strong>&lt;br&gt;<strong>New Directions in Creativity: B</strong>&lt;br&gt;<strong>On The Nose</strong>&lt;br&gt;<strong>Steven Caney's Kids' America</strong>&lt;br&gt;<strong>Steven Caney's Play Book</strong>&lt;br&gt;<strong>Steven Caney's Toy Book</strong>&lt;br&gt;<strong>Think About It!</strong>&lt;br&gt;<strong>Wondering</strong></td>
<td><strong>Be An Inventor</strong>&lt;br&gt;<strong>Brainstorming: The Book of Topics</strong>&lt;br&gt;<strong>Challenge Boxes</strong>&lt;br&gt;<strong>Creativity 1, 2, 3</strong>&lt;br&gt;<strong>Imagining</strong>&lt;br&gt;<strong>New Directions in Creativity: Mark 1</strong>&lt;br&gt;<strong>New Directions in Creativity: Mark 2</strong>&lt;br&gt;<strong>New Directions in Creativity: Mark 3</strong>&lt;br&gt;<strong>On The Nose</strong>&lt;br&gt;<strong>Steve Caney's Invention Book</strong>&lt;br&gt;<strong>Steven Caney's Kids' America</strong>&lt;br&gt;<strong>Steven Caney's Play Book</strong>&lt;br&gt;<strong>Steven Caney's Toy Book</strong>&lt;br&gt;<strong>Think About It!</strong>&lt;br&gt;<strong>Untrapping Your Inventiveness</strong></td>
<td><strong>Brainstorming: The Book of Topics</strong>&lt;br&gt;<strong>Challenge Boxes</strong>&lt;br&gt;<strong>On The Nose</strong>&lt;br&gt;<strong>Steve Caney's Invention Book</strong>&lt;br&gt;<strong>Steven Caney's Kids' America</strong>&lt;br&gt;<strong>Steven Caney's Play Book</strong>&lt;br&gt;<strong>Untrapping Your Inventiveness</strong></td>
</tr>
<tr>
<td><strong>B. Creative Problem Solving and Decision Making</strong></td>
<td><strong>Be An Inventor</strong>&lt;br&gt;<strong>Creativity 1, 2, 3</strong>&lt;br&gt;<strong>On The Nose</strong>&lt;br&gt;<strong>Think About It!</strong>&lt;br&gt;<strong>Wondering</strong></td>
<td><strong>Be An Inventor</strong>&lt;br&gt;<strong>Challenge Boxes</strong>&lt;br&gt;<strong>Creativity 1, 2, 3</strong>&lt;br&gt;<strong>Gee, Whiz!</strong>&lt;br&gt;<strong>Imagining</strong>&lt;br&gt;<strong>On the Nose</strong>&lt;br&gt;<strong>Steve Caney's Invention Book</strong>&lt;br&gt;<strong>Think About It!</strong>&lt;br&gt;<strong>Untrapping Your Inventiveness</strong></td>
<td><strong>Challenge Boxes</strong>&lt;br&gt;<strong>Gee, Whiz!</strong>&lt;br&gt;<strong>Steve Caney's Invention Book</strong>&lt;br&gt;<strong>Untrapping Your Inventiveness</strong></td>
</tr>
</tbody>
</table>

*All the books listed in Figure 60 are available from Creative Learning Press, Inc., P.O. Box 320, Mansfield Center, CT 06250.*
What could you make out of these items?

- cans
- bags
- old spoons
Figure Families (6)

Study the figures below and see if you can group them together according to characteristics they have in common. You can use each figure as many times as you wish. An example is given below.

Common characteristics

<table>
<thead>
<tr>
<th>furry things</th>
<th>Figures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>G, N, O</td>
</tr>
</tbody>
</table>

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5  Another Point of View (a)

Do you remember the story about the three little pigs? In that story, the wolf is depicted as a mean and evil character, but few people have ever told the story from the wolf’s point of view. Imagine that you are the wolf in this story. Retell your story in a way that will let the reader to understand how it feels to be the big bad wolf. A few lines are written to help you get started. Use the back of this page if you need more space.

The Three Little Pigs
by
I. M. A. Wolf

It’s not easy being a big bad wolf. I don’t have very many friends, and everybody runs away when they see me coming.
Imagine that you are walking through a tropical jungle. All around you are things you can see, hear, and smell. In the spaces below, list the things your senses tell you about the jungle. After you have listed the sights, sounds, and smells, write a paragraph describing your walk through the jungle. Use the back of this page if you need more space.

<table>
<thead>
<tr>
<th>Sights</th>
<th>Sounds</th>
<th>Smells</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tbody>
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### I. Cognitive Thinking Skills

- A. Creative Thinking Skills
- B. Analytic, Problem-Solving & Decision-Making Skills

### II. Character Development and Affective Process Skills

- A. Character Development
- B. Interpersonal Skills
- C. Intrapersonal Skills

### III. Learning How-To Learn Skills

- A. Listening, Observing, & Perceiving
- B. Reading, Notetaking, & Outlining
- C. Interviewing & Surveying
- D. Analyzing & Organizing Data

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- The ability to identify trustworthy and useful information
- The ability to selectively manage overabundant information
- The ability to organize, classify, and evaluate information
- The ability to conduct self-assessments of web-based information
- The ability to use relevant information to advance the quality of one’s work
- The ability to communicate information effectively
Now That's a Good Question!

How to Promote Cognitive Rigor Through Classroom Questioning

ERIK M. FRANCIS

Its All About Asking The Right Questions
**Figure 4.4  Good Analytical Questions: The Declaration of Independence**

<table>
<thead>
<tr>
<th>How does the Declaration of Independence express the grievances of the colonists?*</th>
</tr>
</thead>
<tbody>
<tr>
<td>- What is the intent of the Declaration of Independence?</td>
</tr>
<tr>
<td>- What are the meaning and message of the Declaration of Independence?</td>
</tr>
<tr>
<td>- What does the Declaration of Independence represent?</td>
</tr>
<tr>
<td>- How does the Declaration of Independence address the following themes: freedom, independence, tyranny, democracy, unalienable rights?</td>
</tr>
<tr>
<td>- How is the style and tone of the Declaration of Independence idealistic, legalistic, and practical?</td>
</tr>
<tr>
<td>- How does the crafting and structure of the Declaration of Independence strengthen its message and purpose?</td>
</tr>
<tr>
<td>- How does the Declaration of Independence incorporate different conventions of craft, structure, writing, and language to convey its intent and purpose?</td>
</tr>
<tr>
<td>- How did the colonists emphasize their concerns in the Declaration of Independence?</td>
</tr>
<tr>
<td>- How and why is the Declaration of Independence written like a formal legal document?</td>
</tr>
<tr>
<td>- What can be inferred from the opening “The Unanimous Declaration of the thirteen United States of America”?</td>
</tr>
<tr>
<td>- What does this statement mean or infer? “We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable rights, that among these are life, liberty and the pursuit of happiness.”</td>
</tr>
<tr>
<td>- What does the Declaration of Independence infer by calling rights “unalienable”?</td>
</tr>
<tr>
<td>- Why does the Declaration of Independence refer directly to the “present King of Great Britain” and begin every one of their complaints by referring to what “he” has done instead of referring to the nation of Great Britain and its people?</td>
</tr>
<tr>
<td>- Why has this document continued to remain relevant and timeless historically and presently?</td>
</tr>
</tbody>
</table>

* May also be used as a topical essential question.
Type III Enrichment: Individual and Small Group Investigations of Real Problems

What Makes A Problem Real
What Makes a Problem Real?

1. Personalization of Interest
2. Use of Authentic Methodology
3. No Existing Solution or “Right” Answer
4. Designed to Have an Impact on an Audience Other Than or in Addition to the Teacher

“…the young person thinking, feeling, and doing like the practicing professional, even if at a more junior level than adult professionals.”
TYPE III ENRICHMENT:
Building the Curriculum Around the Student

Interview With Facilitating Teacher

Student(s) With An Idea, Or Interest & A Commitment to Pursue An Individual Or Group Project

Begin Development of Management Plan

Problem Finding and Focusing

Finding Appropriate Audiences for Students' Work

Finding Appropriate Outlets For Students' Work

Feedback, Encouragement, Editorial Assistance, Shoulder to Cry On

Human and Material Resources--Teacher as a Managerial Assistant

Finding and Focusing

Focus on the Methodology or How-To-Do-It in a Particular Field

Manicure, Revise, Rewrite, Polish Product

TARGETING ON TYPE III ENRICHMENT:
Building the Curriculum Around the Student
### General Area(s) of Study

- Language Arts/Literature
- Science
- Social Development
- Social Studies
- Music
- Other (Specify) History
- Mathematics
- Art
- Other (Specify) Architecture
- Other

### Intended Audience(s)

- Students
- Teachers
- Parents
- Community

### Intended Product(s) and Outlets

- Report
- Poster
- Exhibition
- Film
- Videotape
- Audio Tape
- Book
- Newspaper
- Magazine
- Other

### Specific Area of Study

Write a brief description of the problem you plan to investigate. What are the objectives of your investigation?

1. **What is Victorian architecture?**
2. **How do Victorian houses differ from those of the 1800s?**

### Methodological Resources and Activities

- **Books:**
  - *American Victorian Architecture* by John C. Miller, 1975
  - *The Victorian House* by Linda O'Sullivan, 1973
  - *The Victorian House* by George Washington, 1975
  - *The Victorian House* by Henry Ford, 1975

- **Periodicals:**
  - *Victorian Homes* magazine
  - *Antiques* magazine
  - *Historic Preservation* magazine

- **Other resources:**
  - Preservation survey
  - Home improvement services
  - Local government agencies

### Getting Started

What are the first steps you should take to begin this investigation? What types of information or data will be needed to solve the problem? If you already have some preliminary ideas, list them here:

1. **Letters to Preservation Information Sources:**
   - Preservation Office
   - Historical Society

2. **Obtain maps of the area:**
   - U.S. Geological Survey maps
   - Local maps

3. **Locate existing Victorian structures:**
   - Use maps and records

4. **Visit town historian:**
   - Ask about Victorian structures

### Notes

This form is based on a model for individual and small group investigations developed by Joseph S. Renzulli. A complete description of the model can be found in *The Enrichment Triad Model: A Guide for Developing Self-Directed Programs for the Gifted and Talented* by Joseph S. Renzulli.
Enrichment Clusters
The “Growth Stock” Of The SEM

1. Specially Designated Time Blocks Each Week
2. Trained General Faculty Teachers
3. Student Selection of Creative and Investigative Projects
4. Using the Methodology of the Practicing Professional
Enrichment Clusters

Are nongraded groups of students who share common interests and come together during specially designated time blocks to pursue these interests.

Note:
Best way to start an enrichment program...
Super Hint Number 5 for getting more authentic Type IIIs in your Enrichment Clusters...

Write an action-oriented description that will emphasize hands-on activity... AND avoid the use of the word, “learn!”

A very creative activity for you!
Sample Cluster Descriptions

➢ The Poets’ Workshop

What is it like to be a poet? Explore the poetry of some of America’s greatest poets, including Robert Frost, Langston Hughes, Emily Dickinson and others. Write, illustrate, and perform original poems or interpret others’ work. Identify outlets for our work.

➢ Invention Convention

Are you an inventive thinker? Would you like to be? Come to this cluster to brainstorm a problem, try to identify many solutions, and design an invention to solve the problem. Create your invention individually or with a partner under the guidance of Bob Erickson and his colleagues. You may share your final product and the Young Inventor’s Fair, a statewide, day-long celebration of creativity.
Would you like to become a “Dumpsite Detective” and uncover ways to reuse our trash?

Would you like to see worms at work reducing our lunchroom garbage?

Join The Recyclers and become an expert in converting trash into treasures!

Be a Mother Nature Super Hero and Save the World!
Would you like to be a detective? Investigate crimes?

Have you ever wondered what it takes to solve a crime?

If investigating a crime, gathering evidence, and solving mysteries strike your curiosity then this is the cluster for you! Join The Crime Scene Detectives.
3. Decide on a topic or two that has special interest to you and answer the six key questions by:

- Obtaining one or more how-To Books on the topic by checking the How-To Data Base in Renzulli Learning.

- Talking to an expert who works in this area (A.S.P.I. R.S.).

- Going on line and do a little background reading about the topic.

- Finding a few examples of creative products, especially if they were done by young people and plan to talk about them with your students. Use the key questions as a guide for an opening discussion.

- Checking the Contests and Competitions Data Base in Renzulli Learning to get some ideas about possible audiences [Great for motivation].

Six Key Questions
[For Facilitating an Enrichment Cluster of Type III Investigations]

1. What do people with an interest in this area do?
2. What products do they create and/or what services do they provide?
3. What methods do they use to carry out their work?
4. What resources and materials need to produce high quality products and services?
5. How, and with whom, do they communicate the results of their work?
6. What steps need to be taken to have an impact on intended audiences?
Super Hint for getting more authentic Type IIIs in your Enrichment Clusters...

Look for contests and competitions where students can submit their work.

Very motivating!
Strength-based Differentiation Engine™

Matching Resources to Individual Learning Profiles

**MY ENRICHMENT ACTIVITIES:**

- **virtual field trips**: 48 Activities
- **real field trips**: 759 Activities
- **creativity training**: 73 Activities
- **critical thinking**: 47 Activities
- **projects & independent study**: 188 Activities
- **contests & competitions**: 243 Activities
- **fiction (books & e-books)**: 4 Activities
- **non-fiction (books & e-books)**: 200 Activities
- **how-to (books & e-books)**: 26 Activities
- **summer programs**: 32 Activities
- **on-line activities & classes**: 245 Activities
- **research sites**: 54 Activities
- **videos & dvds**: 96 Activities
Super Hint for getting more authentic Type IIIs in your Enrichment Clusters...

Plan a Type III Fair where students can display their products, make presentations, and share their work with students from other schools.

An evening session should be planned for parents, school, and city officials. Invite print and media journalists.

“Audience” creates motivation to improve one’s work, pride in accomplishment, and serves as a vehicle for motivating for other students to get involved.