Teaching Gifted and Talented Students

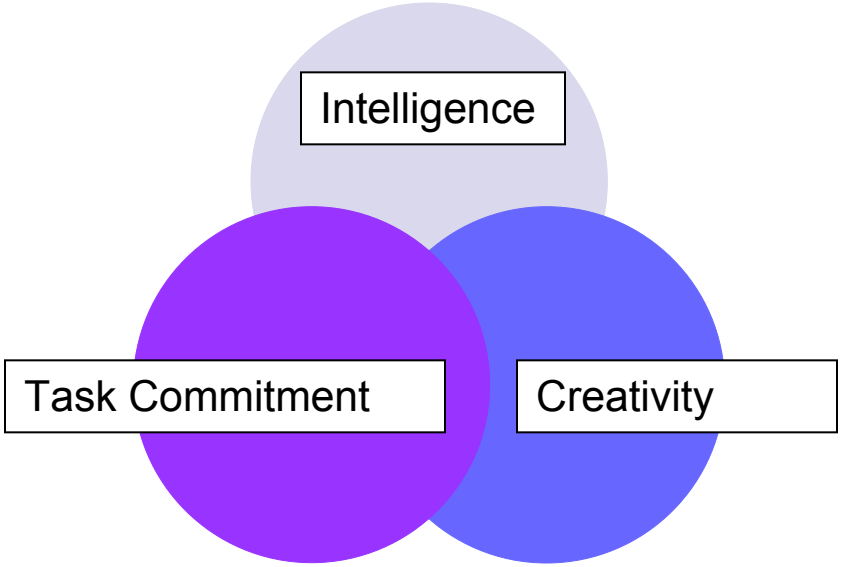
Franny McAleer
www.learnerslink.com

Think! – A Warm Up, Ready, Set Go!

Brainstorming about the topic – Gifted and talented people	Prioritize by selecting three things that your group thinks is most important. Create a visual showing the choices that you prioritized.
Write a simile about the topic using five ideas to show connections _____ is like _____ because it 1. 2. 3. 4. 5.	Illustrate your simile.

BRIGHT CHILD	GIFTED LEARNER
Know the answers	Asks the questions
Is interested	Is highly curious
Has good ideas	Has silly, wild ideas
Works hard	Plays around, yet tests well
Answers the questions	Discusses in detail, elaborates
Top group	Beyond the group
Listens with interest	Shows strong feelings and opinions
Learns with ease	Already knows
6-8 repetitions for mastery	**1-2 repetitions for mastery**
Enjoys peers	Prefers adults
Grasps the meaning	Draws inferences
Completes the assignment	Initiates projects
Copies accurately	Creates a new design
Technician	Inventor
Good memorizer	Good guesser
Enjoys straight forward	Thrives on complexity
Is alert	Is keenly observant
Is pleased with own learning	Is highly self-critical
	By Janice Szabos

Key Three Characteristics:
Dr. Joseph Renzulli, University of Connecticut



Have you seen these?
Characteristics Masking Giftedness

1. Are bored with routine task
2. Refuse to do rote homework
3. Difficult to get them to move onto another topic
4. Critical of others, especially their teachers
5. Disagree with others, as well as the teacher
6. Make jokes or puns at inappropriate times
7. Hand in messy work
8. Disorganized

(Adapted from Roger Taylor)

Research of Giftedness – Biological Differences

Dr. Barbara Clark, Growing Up Gifted, pp. 29-30

From brain/mind research, we know that gifted individuals show the following measurable biological differences –

1. There is, by means of an increase in neuroglial cell production, accelerated synaptic activity that allows for more accelerated thought processing (Thompson, Berger, and Berry, 1980).
2. The neurons become biochemically richer, allowing for more complex patterns of thought (Rosenweig,1966: Krech, 1969).

Giftedness – Biological Differences

3. More use is made of the activity of the prefrontal cortex of the brain. This allows more future planning, insightful thinking, and intuitive experiences (Restak, 1979; MacLean, 1978).

4. More use is made of alpha wave activity within more areas of the brain. The gifted individual can move into this state more quickly and stay in it longer than average learners. Such a state allows more relaxed and concentrated learning, higher levels of retention, and more integration of hemispheric modalities (Lozanov; 1977, Martindale, 1975).

5. There is more coherence and synchronicity of brain rhythms more often, allowing heightened concentration, focused attention, and in depth probing and inquiry (Millay, 1981).

About Motivation

Two motivational states interfere with learning.

One is anxiety;

The other is boredom.

Anxiety occurs when teachers expect too much.

Boredom when they expect too little.

Mihaly Csikezentmihalyi, *Flow: the Psychology of Optimal Experience*

A gifted student was asked,

- "How would you define the best hope for the culture of western Europe?"

- Reply, "It is not in any part of Europe. It is in a small African village and it can be identified with an 82 year old man." The greatness of Schweitzer...the essence of Schweitzer ("Example is not the main thing in life. It is the only thing.") is the man as SYMBOL.

  It is not so much what he has done for others BUT WHAT OTHERS HAVE DONE BECAUSE OF HIM AND THE POWER OF HIS EXAMPLE. This is the measure of the man. What has come out of his life and thought is the kind of inspiration that can animate a generation. He has supplied a working demonstration of reverence for life. He represents enduring proof that we need not torment ourselves about the nature of human purpose. Schweitzer IS!

Renzulli/Hartman Scales Rating the Behavioral Characteristics of Superior Students

Designed to provide an objective and systematic instrument to be used as an aid to guiding teacher judgment in identification of superior students. They should not be added to yield a total score.

Subtests:

1. **Learning Characteristics ***
2. **Motivational Characteristics ***
3. **Creativity Characteristics ***
4. **Leadership Characteristics ***

5. **Artistic Characteristics**
6. **Musical Characteristics**
7. **Dramatics Characteristics**
8. **Communication Characteristics-Precision**
9. **Communication Characteristics-Expressiveness**
10. **Planning**

* Frequently used in identification

Identification: Multiple Criteria

Sample Methods of Identification

1. Intelligence Tests
2. Achievement Tests
3. Ability Tests
4. Creativity Tests
5. Peer Nomination
6. Rating Scales

Traits gifted children consider important in a teacher

- Being patient
- Having a sense of humor
- Moving quickly through learning material
- Treating each person as an individual
- Allowing others' opinions to be heard
- Consistently giving "accurate" feedback

Karen B. Rogers, Re-Forming Gifted Education

Federal Definition - Marland Definition

Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding abilities are capable of high performance. These are children who require differentiated educational programs and services beyond those normally provided by the regular school program in order to realize their contribution to self and society.

(Marland, S.P., Jr. Education of the gifted and talented. Volume 1: Report to the Congress of the United States by the U.S. Commissioner of Education. Washington, DC: U.S. Government Printing Office, 1971.)

High performance in any of the following areas:

1. Intellectual Ability
2. Specific Academic Ability
3. Creative-Productive Thinking
4. Leadership and Psychosocial
5. Visual and Performing Arts

National PreK-12 Standards for Gifted Education

1. Curriculum and Instruction
2. Program Administration and Management
3. Program Design
4. Program Evaluation
5. Socio-Emotional Guidance and Counseling
6. Professional Development
7. Student Identification

http://www.nagc.org/webprek12.htm)

(Page 22)

What are your beliefs about instruction?

- ✓ creating new content, processes, or products to existing curriculum
- ✓ extending existing curriculum to provide enrichment activities
- ✓ providing course work for able students at an earlier age than usual
- ✓ providing varied activities for students who have difficulty learning
- ✓ writing new units or courses that meet the needs of gifted students

(Page 37)

Curriculum Differentiation

Curriculum Differentiation: Strategies for Differentiating Instruction for Gifted Students

Which are available to your gifted learners?

What does the research of Dr. Karen Rogers tell us about various strategies?

(Page 38)

The Research - Does DI Work?

Keynote by Dr. Karen Rogers, University of St. Thomas, April, 2004

- Ability comparison research studies on instructional management
  - Individualization
  - Grouping
  - Acceleration
- Comparative research studies on instructional delivery
  - Learner preferences
  - Learner differences that require a different delivery
- Comparative research studies on curricular adaptations
  - Content modification
  - Process modification
  - Product modification

Understanding Effect Size

In simple terms, effect size can be translated as the number of grade equivalent months of additional achievement one group makes beyond the expected one year's gain designed into an achievement test. Hence, an effect size of .30 = 3 grade equivalent months of achievement a treatment group made that their equivalent control group did not. Effect sizes of .30 or higher are considered a "substantial" gain. Translated another way, it means the treatment group made approximately 15 months progress in 12 months' time.

Research on Instructional Management: Individualization

- Non-graded classrooms (ES= .38)
- One-to-one mentoring/tutoring (ES= .57)
- Compacting - readiness (ES=.83,.26)
- Credit for prior learning (ES= .56)
- Independent Study (ES= 0)

Research on Instructional Management: Grouping

- Full-time ability grouping (ES= .49,.33)
- Regrouping for specific instruction (ES= .34, .79)
- Cluster grouping for GT students (ES= .62)
- Pull-out grouping (ES=65,.44,.32)
- Within class ability grouping (ES= .34)
- Cross-graded classes (ES= .45,.46)

Research on Instructional Management:
Acceleration Permutations

- Grade Skipping (ES= .49)
- Subject Acceleration (ES= .57)
- Grade Telescoping (ES= .40)
- Advanced Placement courses (ES= .27)
- Early Admission to College (ES= .30)
- Credit by Examination (ES= .59)

Research on Instructional Delivery: Lecture, Discussion, Mentoring/Tutoring

- Mentorships which further understanding in a specific field result in
  - socialization effects (ES= .47)
  - self-esteem effects (ES= .42)
  - academic effects (ES= .57)
- One-to-one tutoring, with a focus on advancing, not remediating, knowledge (ES of 2.00)

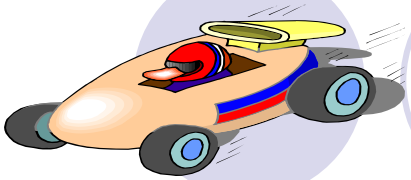
Additional information on line at www.learnerslink.com

What is Cluster Grouping?

Cluster grouping refers to identifying the top five to eight academically talented students at a grade level and placing them in the same classroom with the teacher best qualified to work with gifted students.

Research shows that very strong, positive academic gains result from cluster grouping.

The gifted students most likely to benefit from cluster grouping scores well on an individual IQ test, is advanced in academic achievement beyond grade level, is frustrated by the slow pace of regular classroom instruction, is motivated to learn and has wide-ranging interests, enjoys working with small groups of like ability, and prefers fast-paced, challenging learning experiences.



Differentiation through Acceleration

Which are used in your school district?

Resource: Iowa Acceleration Scale

(Page 40-42)

Underachieving

Third and fourth grades seem to be the first step toward underachievement for many gifted children. They have now experienced several years of school, putting forth minimal effort, and they begin to see they can do well without really trying. They may also begin to slow their pace as they notice that classmates who work slowly have to do less work. As they are constantly told how "good " their work is even though they know it doesn't reflect their best effort, they become less committed to setting high standards for themselves.

Karen B. Rogers, Re-Forming Gifted Education

(Page 43)

Essential Options

1. Discovery learning to find information, solutions, answers for self
2. Like-ability small group projects to learn how to participate without being the leader
3. Independent study to learn how to manage research without teacher direction
4. One-to one tutoring for talent development
5. Self-instructional materials to learn how to manage time
6. Proof and reasoning practice to learn how to support own ideas and solutions
7. Teaching games to acquire new learning in competitive and noncompetitive situations
8. Compacting of previously mastered info and replacement with more complex content
9. Abstract content to learn how to reflect on deeper meanings and ideas
10. Consistent challenge through explorations of greater depth
11. Interdisciplinary connections
12. Telescoping of learning time to maintain focus and concentration
13. Method of inquiry to learn to relate content to methods
14. Real audiences to be given realistic feedback
15. Transformative products to learn how to transform info into visual forms
16. Performance grouping to be differentiated in complexity and pacing
17. Conceptual discussion to explore issues and problems
18. Conflict resolution to solve ethical issues
19. Early content mastery to develop foundation for more complex learning
20. Individualized benchmark setting to plan and monitor performance
21. Whole-to-part learning of new concepts
22. Talent development to extend gifts
23. Talent exhibition to demonstrate performance and potential
24. Literary classics to expand thinking (such as Great Books)
25. World's Great Ideas to expand thinking
26. Accelerated pace in math and science

Pretest

If score of 85% or higher

1. The student displayed that he or she has already mastered the content being presented.
2. Excuse the student from daily assignments already mastered.
3. Assign activities or skills sheets covering the materials missed on the pretest.
4. Provide, or have the students create (using the Bloom Alive Center), extended or accelerated materials or activities for the student to engage in while the rest of the class is learning the required material.
5. When the unit is completed, repeat 1 -4.

If score of 84% or lower

1. The student displayed that he or she will need some or most of the instruction needed for that section of the curriculum.
2. Instruction will be the same as planned and observation will be needed to monitor how students are performing. Adjust pacing if necessary.
3. If students learn the material quickly after the introduction, allow extended opportunities.
4. If students seem to understand the material quickly, consider Most Difficult Five First strategy.
5. Allow the student to take the next pretest prior to the next lesson or unit.

Most Difficult First

For content areas that focus on drill and practice, such as math, grammar, language mechanics, reading skills, states in the US, vocabulary …

MDF is a process that allows students to demonstrate their capabilities in 10 – 20 minutes instead of a longer time period. Instead of doing 40 problems, they are able to show what they know by doing the most difficult ones.

(Page 45)

During this time they agree:

- Do not bother anyone else.
- Do not call attention to yourself.

So the teacher has time to help students who need more individual attention.

Adapted from Susan Winebrenner, Teaching Gifted Kids in the Regular Classroom

ompacting – YES or NO?

1. Does the student finish tasks quickly?
2. Is the student in the top reading group or reading at an advanced level?
3. Do other students look to this student for help?
4. Do you think the student would benefit from more challenging work?

(Page 47)

THE COMPACTOR

Student's Name: _____

Areas of Strength	Documenting Mastery	Alternate Activities
Defining the goals and outcomes of a particular unit or segment of instruction	Determining and documenting which students have already mastered most or all of a specified set of learning outcomes	Enrichment or acceleration strategies for material already mastered providing more challenging and productive use of the student's time

THE COMPACTOR

Student's Name: Annette

Areas of Strength	Documenting Mastery	Alternate Activities
Math ---Decimal Fractions	Score of 85 percent or higher on the pretest	Will work with class on days they learn concepts she has not mastered Will work on alternate math enrichment activities on other days or a contract or independent study

THE COMPACTOR

Student's Name: William

Areas of Strength	Documenting Mastery	Alternate Activities
Map Skills	Achieved 87% on the pretest	Will read to gather research for his book about castles Will find locations of specific castles in England, Scotland and a country on the European continent Will use real locations in his book.

THE COMPACTOR

Student's Name: Jose, Joanne, Sam, and Linda

Areas of Strength	Documenting Mastery	Alternate Activities
Social Studies--- Colonial Living Unit High Interest Strong Readers---- Will read and pick up concepts quickly	Students will read chapters 5 & 6 in text at own pace Do chapter exercises 3, 7, & 9 by third week of unit	Students will select a topic of interest from a list of alternate activities related to an aspect of colonial living and complete an independent study

ENRICHMENT LEVELS

Three levels of enrichment are necessary and appropriate for gifted learners.

1. Exposure enrichment, exposing the student to new ideas, skills, and concepts beyond the regular curriculum. In order to be meaningful, exposure enrichment must be based on the child's interests

2. Extension of the regular curriculum

3. Concept development or in-depth study and mastery of a concept only introduced in the regular curriculum.

(Page 50)

Differentiate the

Content

Process

Product

Learning Environment

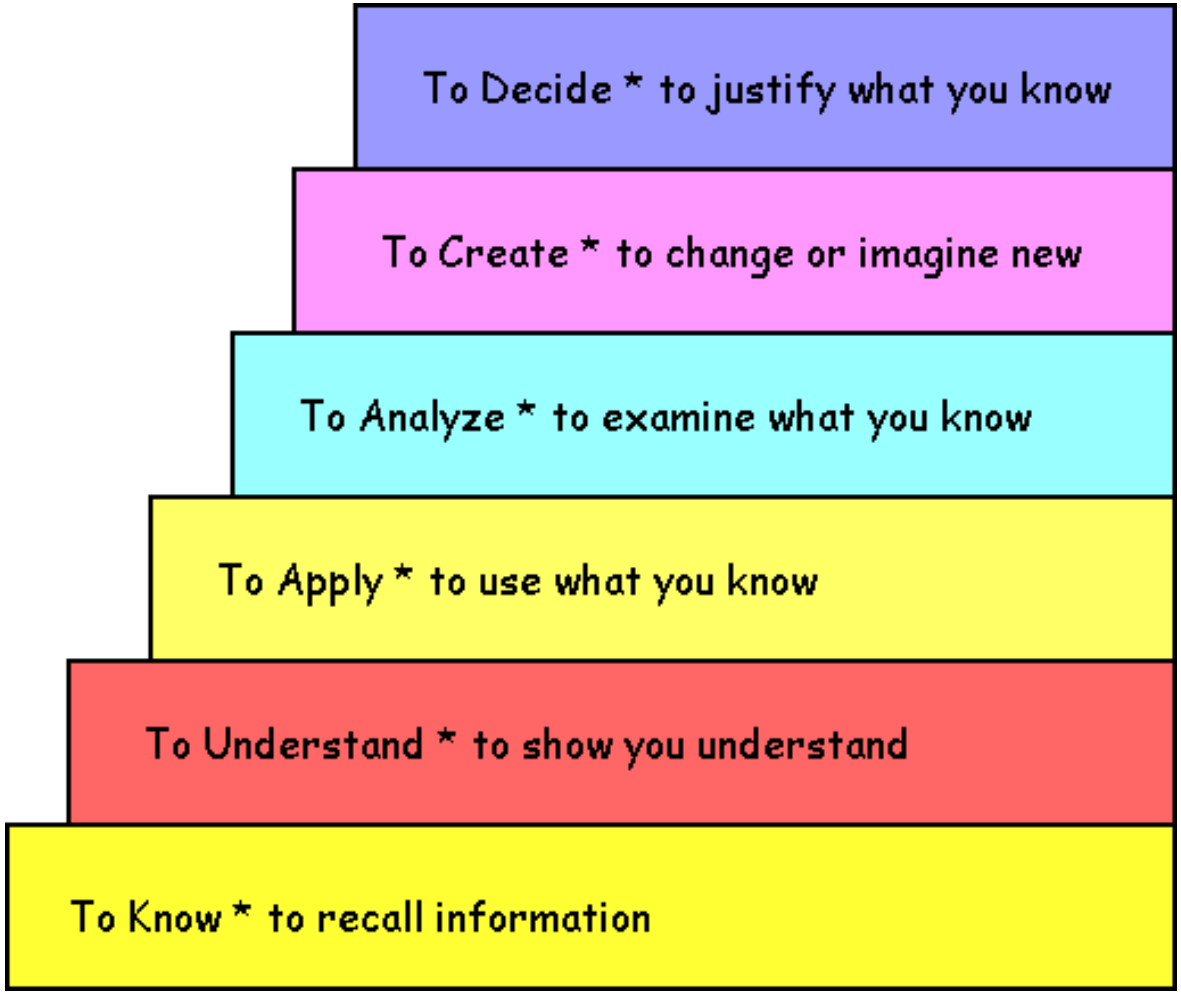
(Page 50 – 52)

Questioning Techniques - Bloom's Hierarchy, the Processes

1.
2.
3.
4.
5.
6.

Questioning Techniques …

Bloom's Hierarchy to Vary the Processes



Differentiating with Questioning

Knowledge – Identification and recall of information

- Who, what, when, where, how, describe, list

Comprehension – Organization and selection of facts and ideas

- Retell (in your own words)
- What is the main idea of _____?

Application – Use of facts, rules, principles

- How is _____ an example of _____?
- How is _____ related to _____

Analysis – Separation of a whole into component parts

- What are the parts of features of _____?
- Classify _____ according to _____
- Outline/diagram/web
- How does _____compare/contrast with _____
- What evidence can you present for _____?

Differentiating with Questioning

Evaluation – Development of opinions, judgments or decisions

- Do you agree or disagree and why
- What do you think about _____?
- What is the most important____ and why
- Prioritize _____ according to _____
- How would you decide about _____?
- What criteria would you use to assess _____?

Synthesis – Combination of ideas to form a new whole

- What would you predict/infer from _____?
- How would you create/design a new _____?
- What might happen if you combined _____ with _____?
- What solutions would you suggest for _____?
- What if _____
- What could I substitute for _____?
- How could I adapt?
- How could I modify?
- How could I put to other uses?
- What if I eliminated, reversed or rearranged a part?

Six Thinking Hats®

Facts

Cautions

Benefits

Creativity

Feelings

Thinking Process

(Page 59-60)

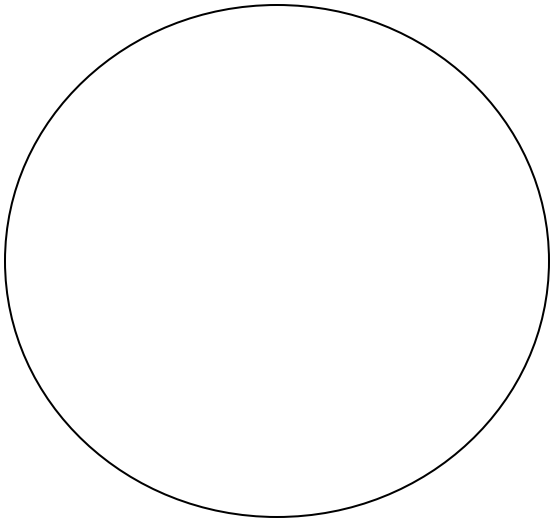
FFOE

Fluent Thinking	To think of the most –
Flexible Thinking	Variety of kinds of ideas, Ability to shift categories
Original Thinking	Unusual responses, Clever, Novel ideas
Elaborative Thinking	Embellish an idea or expand it, add details
Risk Taking	Willingness to expose oneself to failure
Curiosity	Be inquisitive and wonder. Play with ideas.
Complexity	Seek many alternatives.
Imagination	Visualize and build mental

(Page 61-62)

Creativity

Check Out Your Own Creativity: A test similar to the "Exercise In Divergent Thinking: by Dr. Frank Williams



(Page 68)

SCAMPERing … The Keys to Creativity

Substitute

Combine

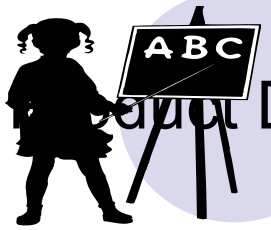
Adapt

Minify, Magnify, Maxify

Put to Other Uses

Eliminate

Reverse or Rearrange



duct Differentiation

1. Multiple Intelligences for products
2. Real problems
3. Impact audiences - an audience that will impact the quality of the product as it is developed and presented
4. Transformations - involving original manipulation of information rather than regurgitation such as primary research to impact the importance of the project

(Page 70)

(Page 71)

M.J. Smart! jcp
1999

Anatomy of a Lesson Plan

Title: Pearl Harbor
Time: 90 min.

Materials: VCR, tape, poster, pictures

Objectives:
1. The student will summarize reasons for U.S. entrance into WWII.
2. The student will evaluate the pros and cons of these reasons.

Setting the stage:
Show pictures of Pearl Harbor bombing.

Discuss: Background from h.w. reading.

Construct: Time line of WWII events.

Groups: Posit "legitimate" reasons for a country to go to war. Refer to textbook and previous class notes.

Show: anti-Japan & anti-German posters and newsclips (video)

Journal: What role did emotions play in the U.S. entrance into WWII? Defend or critique the reasons for going to war.

Multiple Intelligence Self-Evaluation

(Page 72-73)

CP2 … Putting It Together

Highlight the CONTENT + PROCESSES + PRODUCTS in these sample objectives

- In the debate about introducing a new species to the wetlands to help in its preservation, the students will consider all sides of the issue and present their ideas in a ten-minute oral presentation using the Six Hats framework.

- In their study of Indians, the students will be able to use what they have learned to create a new tribe, and will share their ideas through a poster, a collage, a role play, or a self-selected product.

(Page 74)

The Question, Six Hats, the CP2 Objective

The Question (the process)

- What are some ideas for the future use of the land where the World Trade Center was located?

The Six Thinking Hats (a questioning process)

- Analyze each of the possible uses for the land where the World Trade Center was located using the Six Hats concept.

CP2 Objective: Content + Process + Product

- In their study of terrorism, the students will be able to create a drawing, model or computer generated product illustrating their ideas for the future use of the land where the WTC was located.

Tiered Assignments

Terrorism

Tier 1: In their study of terrorism the students will be able to create a drawing, model or computer generated product illustrating their ideas for the future use of the land where the WTC was located.

Tier 2: In our study of terrorism the students will create a drawing or model illustrating their ideas for the future use of the land where the WTC was located as part of a multi media presentation to persuade community leaders to adopt their plan.

Contracts

Written agreements between teachers and students that outline

- what students will learn,
- how they will learn it,
- in what period of time, and
- how they will be evaluated.

(Page 82)

Contract based on Pretest

Chapter/Unit

Pre-assessment

Whole class instruction for skill instruction based on pretest

Page/Skill _____
Page/Skill _____
Page/Skill _____

Enrichment Option

Working Conditions

Signatures

(Page 83)

Contracts in Subjects Where Pre-testing is Practical

Student's daily work alternates between the traditional instructional group and individual contracted extensions

The contract might:

1. List the concepts or outcomes that the whole class will learn.
2. List a variety of alternative or extension activities from which students may choose. These activities may be developed by the teacher, the student, or both.

Students

- work on alternative activities on the days when the class is learning concepts they have previously mastered.
- should be responsible for documenting their time. One option is to ask students to keep a log of their activities on the days they are not working with the rest of the class.

Contracts in subjects where pre-testing is not practical

1. Students will research and present information about an alternative topic related to the general theme or unit.

2. A study guide will list the expected goals which they may choose to achieve independently.

3. Students work on the extended activity in class instead of regular content

4. In this way, the alternative activity becomes the student's class work.

Learning Contract, Elementary

Name _____

My question or topic is:

To find out about my question or topic…

I will read:

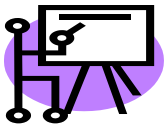
I will look at and listen to:

I will write:

I will draw:

I will need:

Here's how I will share what I know:



I will finish by this date:

(www.learnerslink.com/curriculum.htm)

Learning Contract, Intermediate and Middle School

To demonstrate what I have learned about _____, I want to

_ Write a report
_ Put on a demonstration
_ Set up an experiment
_ Develop a computer presentation
_ Build a model
_ Design a mural
_ Write a song
_ Make a movie
_ Create a graphic organizer or diagram
_ Other_____

This will be a good way to demonstrate understanding of this concept because

_____

To do this project, I will need help with

_____

My Action Plan is_____

The criteria/rubric which will be used to assess my final product is _____

_____

My project will be completed by this date _____
Student signature: _____ Date ___/___/___
Teacher signature: _____ Date ___/___/___

(www.learnerslink.com/curriculum.htm)

Menu of Alternate Activities

Create a menu of possible activities using the students' suggestions when appropriate. One structure that has been used is the Tic-Tac-Toe Menu. Bloom's Taxonomy can be used to alter the difficulty of the activities. Gardner's Intelligences can be used to vary the products.

1.
2.
3.
4.
5.
6.
7.
8.
9. Student developed activity

(Page 89)

entiation Tic–Tac–Toe

	Write a poem that accurately reflect the values of the major characters.	Pack a suitcase to survive in the time period your novel is set in and explain why each item is essential.
	Student Written	
	Compose a song about one of our social norms showing why one of the major characters would have trouble adjusting to life today.	

.

(Handout page 45)

ifferentiation Tic–Tac–Toe

	Argue the issue of pollution of the ___from the point of view of ___. Develop a power point to communicate your ideas.	Create a brochure informing the public of the _____ problem and how to prevent it.
	Student Written	Write a poem about the problem of pollution in the ___ using supporting details from primary resources.
	Compose a song raising awareness of the problem of pollution of the ___.	

Book Report

Draw a picture of the main character.	Perform a play that shows the conclusion of a story.	Write a song about one of the main events.
Write a poem about two main events in the story.	Make a poster that shows the order of events in the story.	Dress up as your favorite character and perform a speech telling who you are.
Create a Venn diagram comparing and contrasting the introduction to the closing.	Write two paragraphs about the main character.	Write two paragraphs about the setting.

Independent Studies

Seven Steps:

1. Choosing a topic, issue, problem …
2. Initial questioning
3. Planning the independent study
4. Uncovering the information: the research
5. Putting it together: the findings and the product
6. Presentation of the Independent Study
7. Evaluating the Independent Study

(Page 92)

Independent Project Learning Contract

Please spend time thinking about what you want to research. This contract is designed to expand your understanding of a topic of interest to you.

Date _____

Student's Name _____

Topic of Interest _____

Project Product _____

Presentation Format _____

Steps Anticipated to Complete the Product

Criteria for Evaluation (qualities that will make your product exceptional)

CATEGORY RESEARCH GUIDES

Event --	An occurrence, incident or experience, especially one of significance.
Invention --	That which exists in the mind, or a product of mental activity such as a thought or concept.
Issue --	A point of discussion, debate, dispute or controversy.
People --	A recognized group.
Person --	A human entity.
Place --	Something that can be designated geographically.
Problem --	Something that has no known answer
Process --	A series of steps or stages that bring about an end or result.
Situation --	A combination of circumstances at a given moment or state of affairs.
System --	A group of units so combined as to form a whole and to operate in unison.
Object --	Something that can be seen, felt or pictured mentally.
Other Living Things --	Something that is not human.

Written by Dr. Kenneth R. Chuska.

(Page 95-127)

Learning Centers

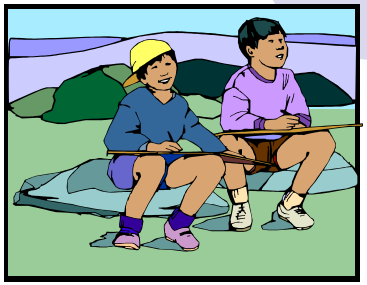
Learning Centers can be stations or collections of materials that learners use to investigate topics or practice skills.

Learning centers can be varied based on

- readiness levels
- process or questioning levels
- learning styles of different students

(Page 128)

Interest Centers or Interest Groups



Interest centers are often identified with younger learners and interest groups with older learners.

These provide enrichment for students who demonstrate mastery with required work. They engage the students in meaningful study in an area of particular interest to them. These can vary based on complexity and the amount of independence needed. They allow older students longer period of time for in depth study.

(Page 128)

Apprenticeships and Mentorships

Students work with a variety of people who are “experts” in a particular field of study. These people guide the students work on a “sky is the limit” project. It may be an advanced level project, an out of school exploration, a career-oriented investigation, or an affective area of development.

(Page 129)

Self-Evaluation

1. What did you do well?
2. What might you improve?
3. What resources were most important?
4. Use the Six Thinking Hats® to evaluate your work?

(Page 131)

ABC's of Gifted Education