

**DEER PARK SCHOOL DISTRICT
BOARD OF EDUCATION
WORK SESSION AGENDA
ADMINISTRATION OFFICE
MAY 8, 2012**



NEW BUSINESS:

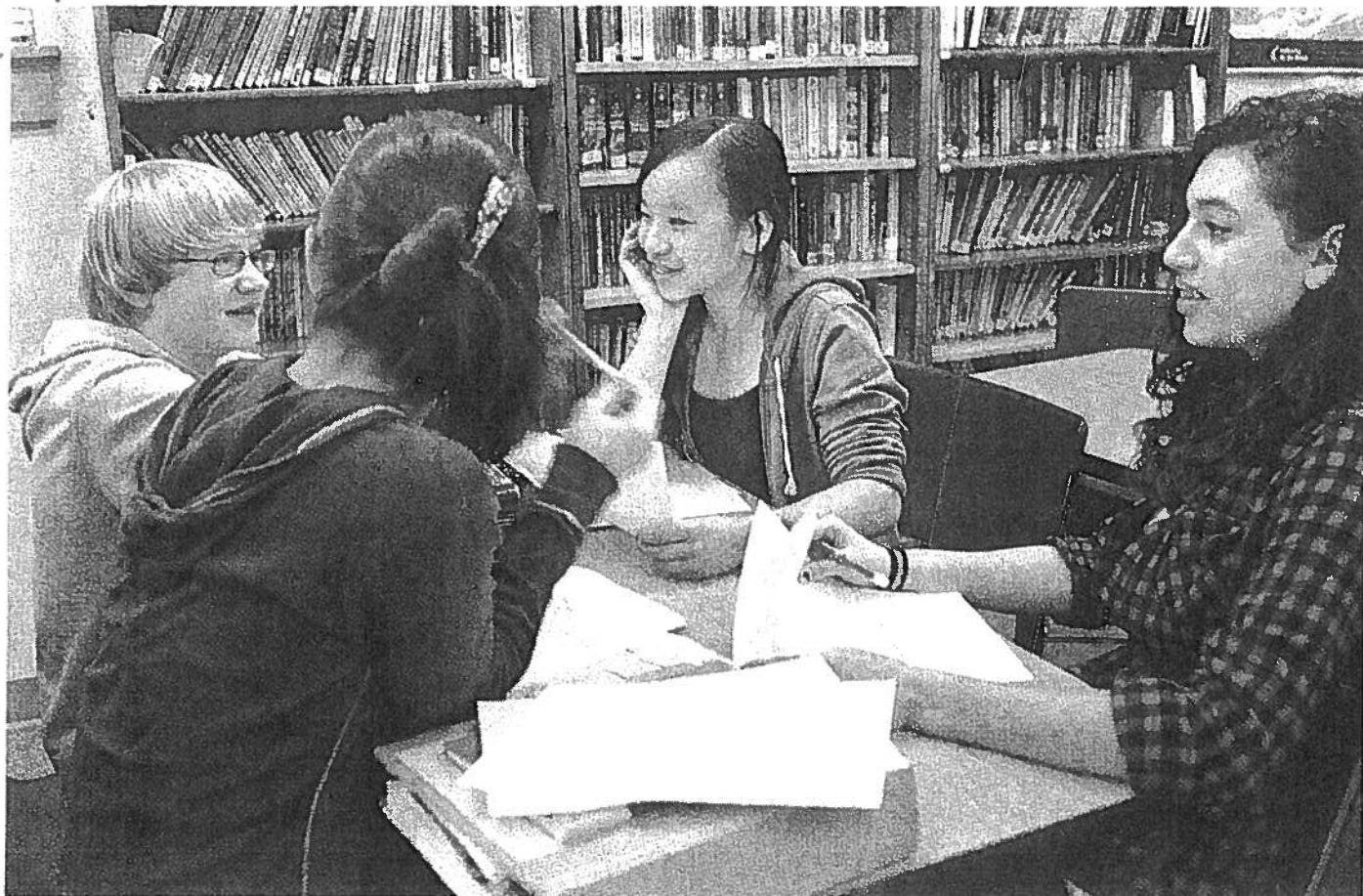
1. FIRST READING - POLICY #6136 FUND BALANCE POLICY

Recommend that the Board of Education approve the following Resolution:

RESOLVED, that the Board of Education approve the revisions to Policy #6136, Fund Balance Policy.

PRESENTATION/DISCUSSION:

- Ms. Jimenez – Statement on the Budget
- Ms. Skillen & Dr. Sheridan – Gifted Program



Clustered for Success

Cluster grouping enables gifted students, as well as all the other students, to make meaningful progress.

**Dina Brulles and
Susan Winebrenner**

The district was losing students, and there was no mystery about where they were going. Their loss coincided with a marked increase in the number of local charter schools. And who was leaving? Mostly the highest-ability students.

From 2005 to 2010, the Paradise Valley Unified School District in Phoenix, Arizona, saw its enrollment decline by approximately 5 percent. At the same time, the number of local charter schools increased. This situation isn't unique to Paradise Valley; it's happening across the United States.

One reason for this exodus relates to

No Child Left Behind. Schools in fear of facing sanctions as a result of low standardized test scores may overlook the learning needs of their high achievers (Kaplan, 2004; Neill, 2003). Many of these students have mastered at least 60 percent of grade-level standards before receiving instruction (Brulles, Cohn, & Saunders, 2010). So even though they may earn good grades, they are the least likely to make yearly academic growth without specific interventions in place (Winebrenner, 2003).

With schooling options more numerous than ever before, parents—and certainly parents of high-achieving students—now shop around for the best

educational match for their children (Parker, 2011). All parents, however, value schools that pay attention to their students with high ability because in schools like these, student achievement levels typically rise. This, in turn, attracts students from surrounding districts and recaptures those who previously chose alternative schooling

options. By redirecting attention to the needs of all their students, including the gifted, schools like Paradise Valley can decrease “bright flight,” entice families back, and raise the bar for all.

Issues with Gifted Education

Believing that gifted students are academic role models, some principals make an effort to place them in every class. In reality, gifted students may not be effective in helping their classmates learn because they make intuitive leaps in their thinking when more linear thinking might be more helpful to most students. In addition, many gifted students resent being placed in the role of tutor.

Gifted education programs often are controversial as well. Although parents of gifted students, believing their children deserve opportunities to reach their full potential, welcome such interventions, others often consider these programs elitist because they commonly serve more affluent white children than poor and minority children (Brulles

& Lansdowne, 2009). Most schools provide intermittent services, pulling students out of homeroom classes for enrichment for brief periods during the week. When they return to their classrooms, students are sometimes required to complete the work they missed, which typically is below their challenge level. Problems with gifted programming are exacerbated in times of budget constraints, when pull-out services and programs for advanced learners are often the first eliminated. The prevailing belief—that gifted kids will make it on their own—makes funding gifted services a low priority.

However, one practical intervention—cluster grouping—effectively addresses these challenges while providing an inclusive environment that improves all students’ achievement. This method for providing gifted services is rapidly becoming more prevalent in U.S. schools.

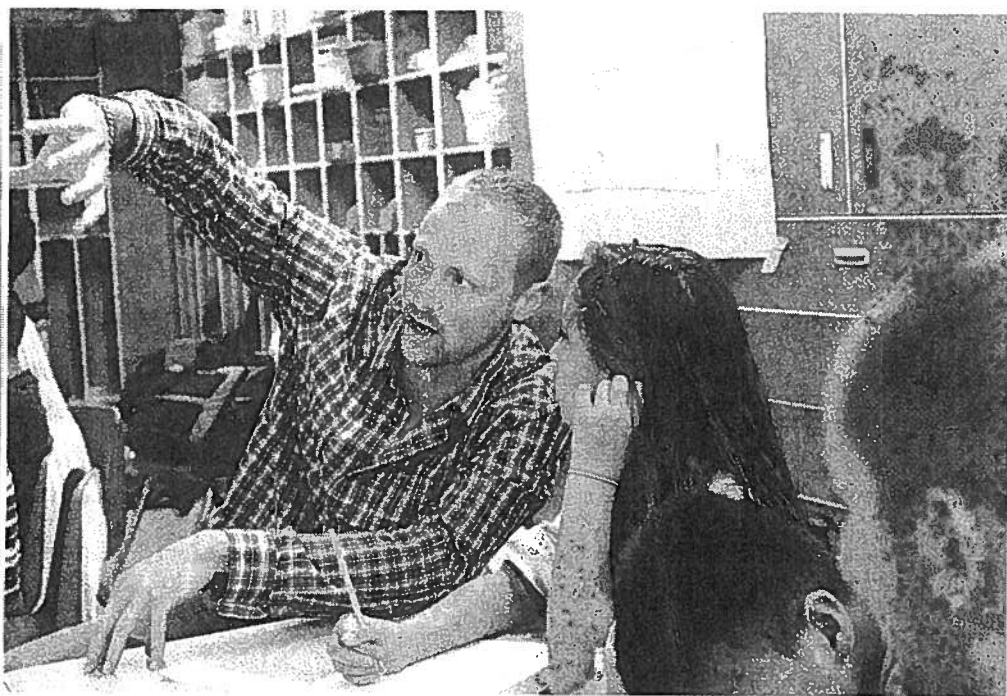
A Manageable Model

In cluster grouping, *all* students in a grade level are grouped according to their ability and achievement levels. A cluster of either gifted or high-achieving

High-achieving students frequently emerge as academic leaders when not placed with gifted students.

students—one or the other—is in every classroom, along with only two or three other clusters. These remaining clusters are composed of students in the average, low-average, and far-below-average ranges. A classroom that has a gifted cluster will not have a cluster that is far below average. The classroom composition shown in Figure 1 illustrates how the model balances achievement levels and narrows the range of ability in each class.

Enfranchising gifted students in a cluster-grouping model can provide a pathway to higher achievement for all students in the school. In addition, narrowing the range of abilities in the classroom by limiting the number of clusters—ensuring that teachers don’t have two extremes in their classrooms—makes the model more manageable (Winebrenner & Brulles, 2008). Research also suggests that the



cluster-grouping model gives teachers more time to work with individual students (Gentry & MacDougall, 2008).

Administrators who implement cluster-grouping models are sometimes tempted to place high-achieving students in classes with gifted students. This approach is problematic for two reasons. First, clustering all high-achieving and gifted students in one class resembles tracking and decreases the likelihood for success. All classes benefit from having high-ability or high-achieving students. Second, high-achieving students frequently emerge as academic leaders when not placed with gifted students.

The inclusive nature of cluster grouping recognizes that not all gifted students are high achievers; rather, the manner in which they acquire information necessitates a difference in instruction and curriculum. Gifted students make intuitive leaps in their thinking, require fewer repetitions to master new concepts, accelerate through the curriculum at a faster rate, and think more critically and with greater depth and complexity than students of average ability.

Cluster grouping embraces all gifted students regardless of their current levels of productivity—this includes gifted students who are twice exceptional; English language learners; and students who are culturally diverse, poor, or in the primary grades (Brulles & Lansdowne, 2008).

Student Placement

Gifted cluster groups typically consist of four to nine gifted students, who make up approximately 20–25 percent of the class. When the number of gifted students exceeds nine, a second gifted cluster classroom is often formed.

Giftedness is measured through ability tests, such as the Cognitive Abilities Test and the Naglieri Nonverbal Ability

FIGURE 1. Recommended Classroom Composition for Cluster Grouping for a Single Grade Level

Classroom	Gifted	High Average	Average	Low Average	Far Below Average
A	6	0	12	12	0
B	0	6	12	6	6
C	0	6	12	6	6

Source: From *The Cluster Grouping Handbook: How to Challenge Gifted Students and Improve Achievement for All* (p. 14), by S. Winebrenner and D. Brulles, 2008, Minneapolis, Minnesota: Free Spirit Publishing. Copyright 2008 by Free Spirit Publishing. Used with permission.

Test, and also through IQ tests, such as the Stanford-Binet Intelligence Scale and the Wechsler Intelligence Scale for Children. The “gifted” identification relates to students’ potential for learning; it doesn’t reflect knowledge that students have already acquired. Also, the gifted identification relates to overall general ability. Students who are identified as gifted are automatically placed into gifted cluster classes regardless of their areas of strength.

Before making student placements, teachers assign their students to one of five categories (Winebrenner & Brulles, 2008). Teachers determine group assignments through formal and informal methods that include standardized test data, teacher observations, and other standardized and anecdotal data.

Students are assigned to groups with the following descriptors:

- **Group 1—Gifted:** All students identified as gifted, including those not fluent in English, those who are academically nonproductive, and those who are twice exceptional.
- **Group 2—High Average:** Highly competent and productive students who achieve well.
- **Group 3—Average:** Students who achieve in the middle range of grade-level expectations.
- **Group 4—Low Average:** Students who may score slightly below grade level but who can achieve at grade level

with some support.

- **Group 5—Far Below Average:** Students who struggle in most subject areas and score significantly below proficiency levels.

Student placements occur each spring. Teachers from the sending and receiving grade levels work with assistance from the principal, gifted specialists, and special education teachers. To create the kind of classrooms shown in Figure 1, school staff must cluster gifted students in designated classrooms, group high-average students in classrooms that have not been assigned the gifted cluster, place average students evenly in all classrooms, place low-average students in all classrooms, and place far-below-average students in classes without the gifted cluster.

What Teachers Need to Know

Cluster grouping recognizes that gifted students need to be challenged daily in all subject areas (Hoover, Saylor, & Feldhusen, 1993). This requires the daily attention of teachers who have a certification in gifted education or who participate in ongoing training in that field. It also requires a sustained focus on documenting student progress, which cluster grouping facilitates.

Monitoring Student Progress

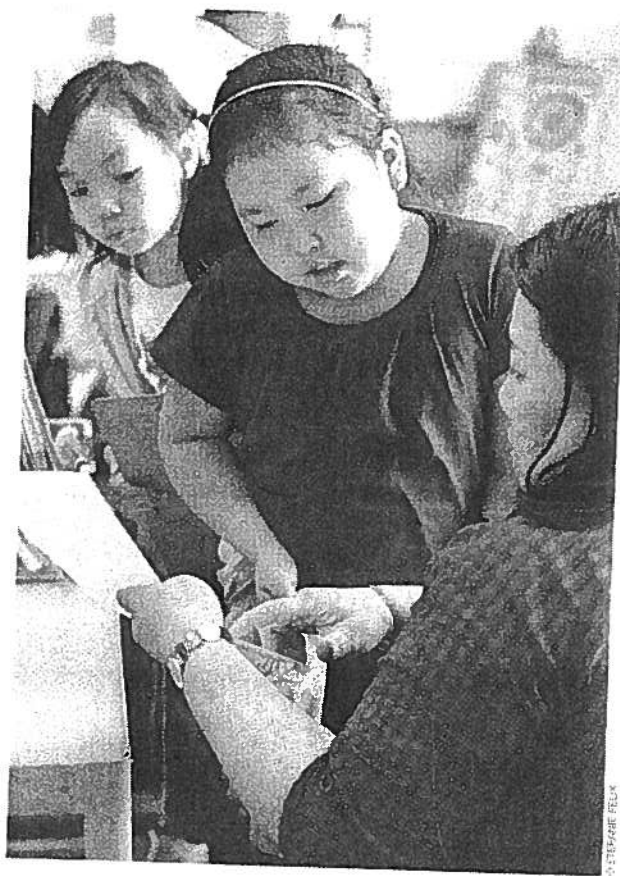
The cluster-grouping approach is similar to Response to Intervention (RTI),

which schools use primarily to benefit low-achieving students. Like RTI, cluster grouping enables teachers to diagnose a student's entry level in specific content, prescribe an intervention that will advance the student's progress, and assess the degree to which the intervention worked.

For example, a gifted cluster teacher might determine students' challenge levels by offering a pretest before teaching a new concept. After providing a few minutes of direct instruction to the entire class on a new unit of study, the teacher might give students the opportunity to take the end-of-the-unit test *before* receiving the week's instruction and completing the week's practice work. Students who score at 90 percent or higher have demonstrated that they have mastered the content and do not need to spend the week learning that material. Instead, the teacher would provide more challenging work in the same subject area to those students and assess their progress on that material.

Training Teachers

Schools attempting to teach gifted students in an inclusionary setting need to help teachers learn about and plan for gifted students' academic and affective needs. Although most teachers have training in differentiating curriculum and instruction, few entering the field have preservice exposure to the characteristics and learning needs of gifted students (National Association for Gifted Children, 2009). All teachers could benefit from this exposure and from additional training in differentiated instruction, which benefits all students, not only the gifted.



Advanced students must recognize that they are not doing more work than others, just different work.

Administrators can focus teacher training more easily by having a designated gifted cluster teacher at every grade level. This teacher-trainer would show teachers how to pre-assess gifted learners to gauge prior knowledge in a given topic, provide instruction that takes into account gifted students' attributes and needs, encourage problem solving and divergent and critical thinking, provide classroom time

for like-minded peers to work together at advanced levels, and support student-directed learning.

Differentiating Instruction

When teachers have only one or two students from a special population, they may overlook them, especially when the students appear to be doing well. Teachers are more likely to consistently differentiate curriculum and instruction for their gifted students when they have a group of gifted students in their classrooms.

Likewise, gifted students more readily take advantage of differentiated learning opportunities when others are working at advanced levels. They may take more academic risks and challenge one another more—only because of their more competitive natures but also because they feel understood by their teachers (Webb et al., 2005) and more comfortable and confident learning with peers with whom they can relate (Delisle & Galbraith, 2002).

In gifted cluster classes, any student may try to demonstrate that he or she has already mastered the upcoming standards and thus participate in the various differentiated tasks planned for gifted students. For advanced learners, however, differentiation is only part of what they need. Effective differentiation must be accompanied by *curriculum* or *lesson compacting*, a process of giving students credit for what they already know. Compacting also occurs when advanced students are allowed to work more quickly through grade-level material. (See "A Lesson in Lesson Compacting.")

For an approach like this to be successful, students must recognize

A Lesson in Lesson Compacting

Mr. Wilkerson notices that some of his students in math always complete their practice work quickly. Having learned "the most difficult first" strategy in a recent workshop, he presents it to the class the next day.

He begins the lesson with 15 minutes of direct instruction and then explains to students that he will now be offering a new option: Those students who understand a lesson—and prove it by correctly doing the five most difficult math problems on the day's assignment—won't need to do the rest of the problems. They can work instead on an "extension page"—that is, a more challenging math activity—for the rest of the class period.

Students who attempt to do those five problems but have difficulty solving them on their own go back to the beginning of the page and try to complete all the problems. During this time, the classroom "checker" verifies the answers of those students who have tackled the five most difficult problems, thus freeing the teacher to help students who need more support.

This strategy accomplishes several important outcomes. First, the teacher doesn't waste the learning time of students who require little practice. Second, he structures sufficient time for those who need it. Finally, he frees up time to work directly with the students who most need his assistance. "Most difficult first" represents a simple solution to the challenge of teaching in classes with a range of abilities.

that they are not doing *more* work than others, just *different* work. Students must also understand that their recorded grade will not be lower than it would have been had they completed the regular class work instead of the more challenging work they tackled. Because teachers are required to assess only the grade-level standards—this is what the recorded grade reflects—they can give alternative credit to students who successfully complete extension activities.

A Solution That Satisfies All

In this time of rapidly expanding school choice, schools need to provide a challenging learning environment for students of all levels of ability and achievement. Cluster grouping creates a more rigorous and relevant school setting, encourages smart students to remain in their schools, and draws back students who have left. In addition, it provides equitable services to all students, is feasible to implement,

satisfies parents, and sets the stage for higher achievement for all. **EL**

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EL Online

Learn how grouping can be used to promote student success in math in the online-only article "Math Groups That Make Sense" by Sandra Dean and Michael Zimmerman at www.ascd.org/publications/educational-leadership/feb12/vol69/num05/Math-Groups-That-Make-Sense.aspx.



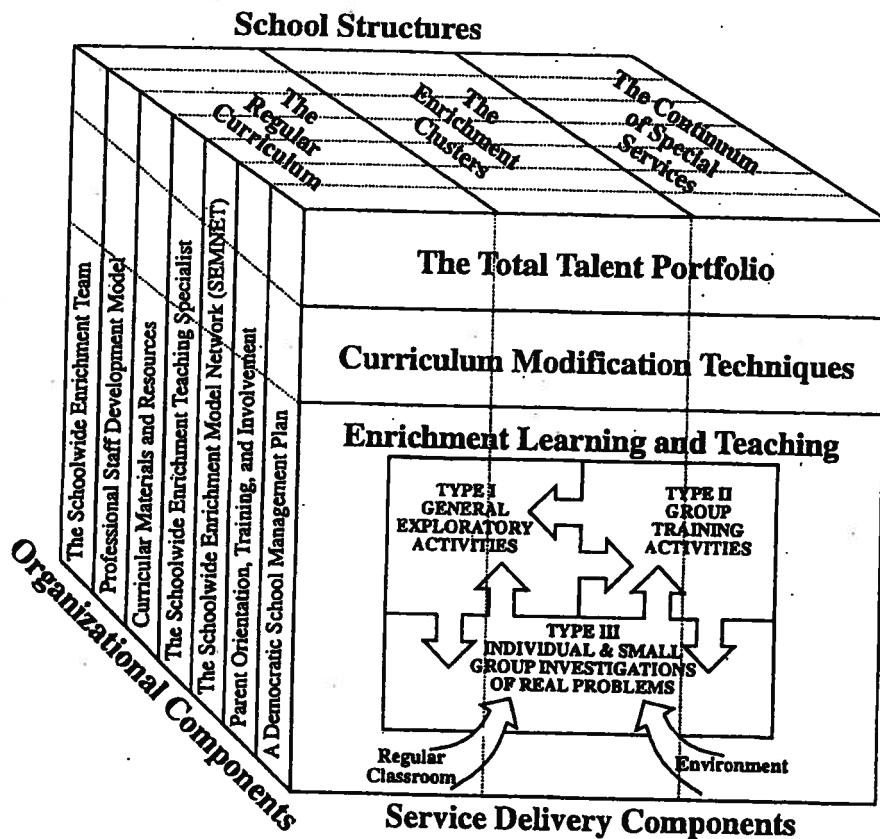
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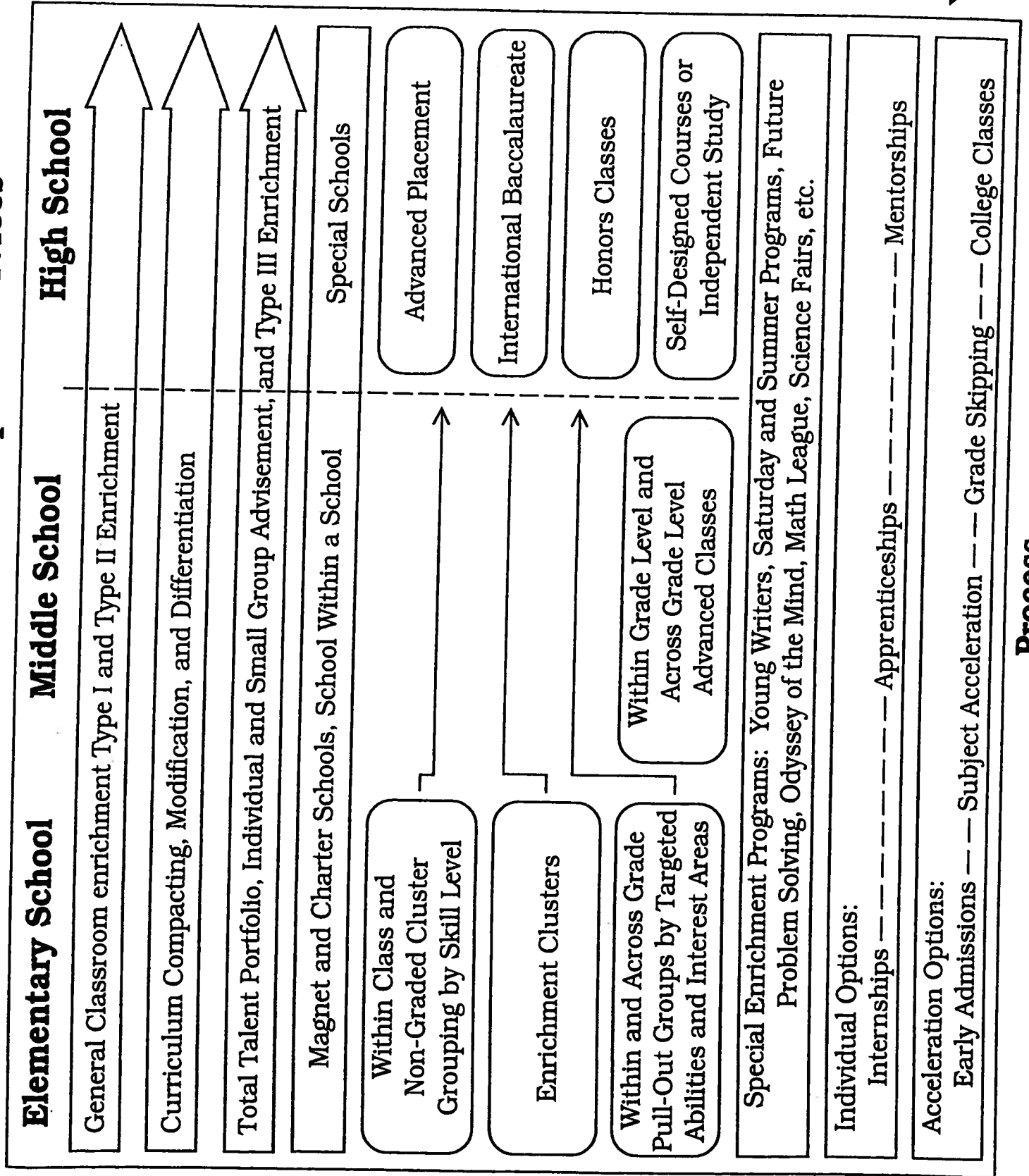
The Schoolwide Enrichment Model

Joseph S. Renzulli

Sally M. Reis



The Integrated Continuum of Special Services



Output

Input

Continuum of Potentials

Abilities • Interests • Learning Styles

Continuum of Performances

Academic • Creative/Productive • Leadership

Process

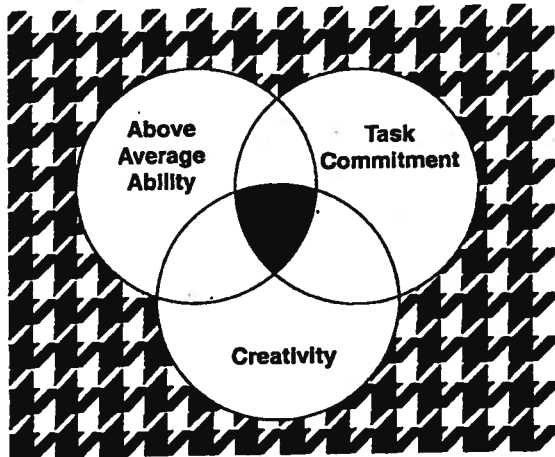
Graphic Representation of the Three-Ring Definition of Giftedness

General Performance Area

Mathematics	Visual Arts	Physical Sciences
Philosophy	Social Sciences	Law
Religion	Language Arts	Music
Life Sciences		Movement Arts

Specific Performance Areas

Cartooning	Demography	Electronic Music
Astronomy	Microphotography	Child Care
Public Opinion Polling	City Planning	Consumer Protection
Jewelry Design	Pollution Control	Cooking
Map Making	Poetry	Ornithology
Choreography	Fashion Design	Furniture Design
Biography	Weaving	Navigation
Film Making	Play Writing	Genealogy
Statistics	Advertising	Sculpture
Local History	Costume Design	Wildlife Management
Electronics	Meteorology	Set Design
Musical Composition	Puppetry	Agricultural
Landscape	Marketing	Research
Architecture	Game Design	Animal Learning
Chemistry	Journalism	Film Criticism
etc.	etc.	etc.



*
brought
to bear
upon

* This arrow should read as "... brought to bear upon ..."

Total Talent Portfolio

Joseph S. Renzulli

Abilities	Interests	Style Preferences			
<i>Maximum Performance Indicators</i>	<i>Interest Areas</i>	<i>Instructional Styles Preferences</i>	<i>Learning Environment Preferences</i>	<i>Thinking Styles Preferences</i>	<i>Expression Style Preferences</i>
<p>Tests</p> <ul style="list-style-type: none"> •Standardized •Teacher-Made <p>Course Grades</p> <p>Teacher Ratings</p> <p>Product Evaluation</p> <ul style="list-style-type: none"> •Written •Oral •Visual •Musical •Constructed <p>(Note differences between assigned and self-selected products)</p> <p>Level of Participation in Learning Activities</p> <p>Degree of Interaction With Others</p>	<p>Fine Arts</p> <p>Crafts</p> <p>Literary</p> <p>Historical</p> <p>Mathematical/Logical</p> <p>Physical Sciences</p> <p>Life Sciences</p> <p>Political/Judicial</p> <p>Athletic/Recreation</p> <p>Marketing/Business</p> <p>Drama/Dance</p> <p>Musical Performance</p> <p>Musical Composition</p> <p>Managerial/Business</p> <p>Photography</p> <p>Film/Video</p> <p>Computers</p> <p>Other (Specify)</p> <p>Ref: Renzulli, 1997</p>	<p>Recitation & Drill</p> <p>Peer Tutoring</p> <p>Lecture</p> <p>Lecture/Discussion</p> <p>Discussion</p> <p>Guided Independent Study *</p> <p>Learning /Interest Center</p> <p>Simulation, Role Playing, Dramatization, Guided Fantasy</p> <p>Learning Games</p> <p>Replicative Reports or Projects*</p> <p>Investigative Reports or Projects*</p> <p>Unguided Independent Study*</p> <p>Internship*</p> <p>Apprenticeship*</p> <p>*With or without a mentor</p> <p>Ref: Renzulli & Smith, 1978</p>	<p>Inter/Intra Personal</p> <ul style="list-style-type: none"> •Self-Oriented •Peer-Oriented •Adult-Oriented •Combined <p>Physical</p> <ul style="list-style-type: none"> •Sound •Heat •Light •Design •Mobility •Time of Day •Food Intake •Seating <p>Ref: Amabile, 1989; Dunn, Dunn, & Price, 1978; Gardner, 1983</p>	<p>Analytic (School Smart)</p> <p>Synthetic/Creative (Creative, Inventive)</p> <p>Practical/Contextual (Street Smart)</p> <p>Legislative</p> <p>Executive</p> <p>Judicial</p> <p>Ref: Sternberg, 1984, 1988, 1992</p>	<p>Written</p> <p>Oral</p> <p>Manipulative</p> <p>Discussion</p> <p>Display</p> <p>Dramatization</p> <p>Artistic</p> <p>Graphic</p> <p>Commercial</p> <p>Service</p> <p>Ref: Kettle, Renzulli, & Rizza, 1998; Renzulli & Reis, 1985</p>

INDIVIDUAL EDUCATIONAL PROGRAMMING GUIDE

The Compactor

Prepared by: Joseph S. Ranzulli
Linda M. Smith

NAME _____ AGE _____ TEACHER(S) _____ Individual Conference Dates And Persons
Participating in Planning Of IEP

SCHOOL _____ GRADE _____ 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.

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

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

Name it.

Prove it.

Change it.

What material needs to be covered?

Exactly what material is to be excluded?

What enrichment and/or acceleration activities will be included?

What evidence shows a need for compacting?

How will you prove mastery?

Independent Study Acceleration
Mini-courses Honors Courses
College Courses Mentorships
Small Group Investigations
Work Study

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

EIGHT STEPS FOR IMPLEMENTING CURRICULUM COMPACTING

Identify Need for Compacting	Step One	Identify the relevant objectives in a given subject area or grade level.
	Step Two	Find or develop some means of pretesting students on one or more of these objectives prior to instruction.
	Step Three	Identify students who may benefit from curriculum compacting and should be pretested.
	Step Four	Pretest students to determine their mastery levels of the chosen objectives.
Compact Regular Curriculum	Step Five	Eliminate practice, drill, or instructional time for students who have demonstrated prior mastery of these objectives.
	Step Six	Streamline instruction of those objectives students have not yet mastered but are capable of mastering more quickly than their classmates.
Provide Alternatives	Step Seven	Offer enrichment or acceleration options for students whose curriculum has been compacted.
Keep Records	Step Eight	Keep records of this process and the instructional options available to "compacted" students.

Curriculum Compacting

The Complete Guide to Modifying the Regular Curriculum for High Ability Students

Sally M. Reis
Deborah E. Burns
Joseph S. Renzulli

Creative Learning Press, 1992

Type I Enrichment Summary Sheet

DEFINITION: Experiences and activities that are purposefully designed to expose students to a wide variety of disciplines (fields of study), visual and performing arts, topics, issues, occupations, hobbies, persons, places, and events that are not ordinarily covered in the regular curriculum.

**TARGET
AUDIENCES:**

1. All students (general and periodic).
2. Talent Pool students (general and specific—regularly scheduled).

OBJECTIVES:

1. To enrich the lives of all students by expanding the scope of experiences not covered by the school.
2. To stimulate new interests that might lead to more intensive follow-up (Type III) activity on the parts of individuals or small groups of students.
3. To give teachers direction in making meaningful decisions about the kinds of Type II Enrichment activities that should be selected for particular groups of students.

KEY CONCEPTS:

Exposure to New Topics Different From Regular Curriculum.
Dynamic Activities That Will Stimulate New Interests in Certain Students.
"Event" Oriented.

ACTION FORMS:

Type I Planning Guide
Community Resource Record
Resource Directory Cards
Type I Resources By Subject Area
Form for Recording sources for Type I Resources
Type I Enrichment Documentation Form

Type I Planning and Documentation Form

Check all that apply: General Matrix _____ Grade Level _____ Subject Area _____ Methods of Delivery	Content Areas				
					TOTAL
I. Resource Persons					
Speakers					
Enrichment Clusters					
Demonstrations					
Artistic Performances					
Panel Discussion/Debate					
E-Mail					
Other _____					
II. Media					
Films					
Filmstrips					
Slides					
Audio Tapes/CDs					
Videotapes					
Television Programs					
Newspaper/Magazine Articles					
Computer Programs					
Other _____					
III. Other Resources					
Interest Development Centers					
Displays					
Field Trips					
Museum Programs					
Learning Centers					
Internet					
Other _____					
TOTAL					

Type II Enrichment Summary Sheet

DEFINITION:	Instructional methods and materials that are purposefully designed to promote the development of thinking and feeling processes.
TARGET AUDIENCES:	<ol style="list-style-type: none">1. All students (basic training).2. Talent Pool students (basic training, plus advanced level experiences according to individual abilities and interests).
OBJECTIVES:	<ol style="list-style-type: none">1. To develop general skills in creative thinking and problem solving, critical thinking, and affective processes such as sensing, appreciating, and valuing.2. To develop a wide variety of specific learning how-to-learn skills such as notetaking, interviewing, classifying and analyzing data, drawing conclusions, etc.3. To develop skills in the appropriate use of advanced level reference materials such as readers guides, directories, abstracts, computer software, the Internet, etc.4. To develop written, oral, and visual communication skills that are primarily directed towards maximizing the impact of students' products upon appropriate audiences.
KEY CONCEPTS:	A Taxonomy of Process and Thinking Skills Development. Group Interaction. A "Scope and Sequence" Approach to Process Development. Methods and Materials Oriented.
ACTION FORMS:	Planning Matrix for Organizing and Teaching Type II Skills Materials and Activities Selection Worksheet Enrichment Materials Specification Forms

TAXONOMY OF COGNITIVE AND AFFECTIVE PROCESSES
 (The "Type II Matrix" JSR: 2000)

I. Cognitive and Affective Thinking	K-3	4-8	9-12
A. Creative Thinking Skills			
B. Creative Problem-Solving & Decision-Making			
C. Critical and Logical Thinking			

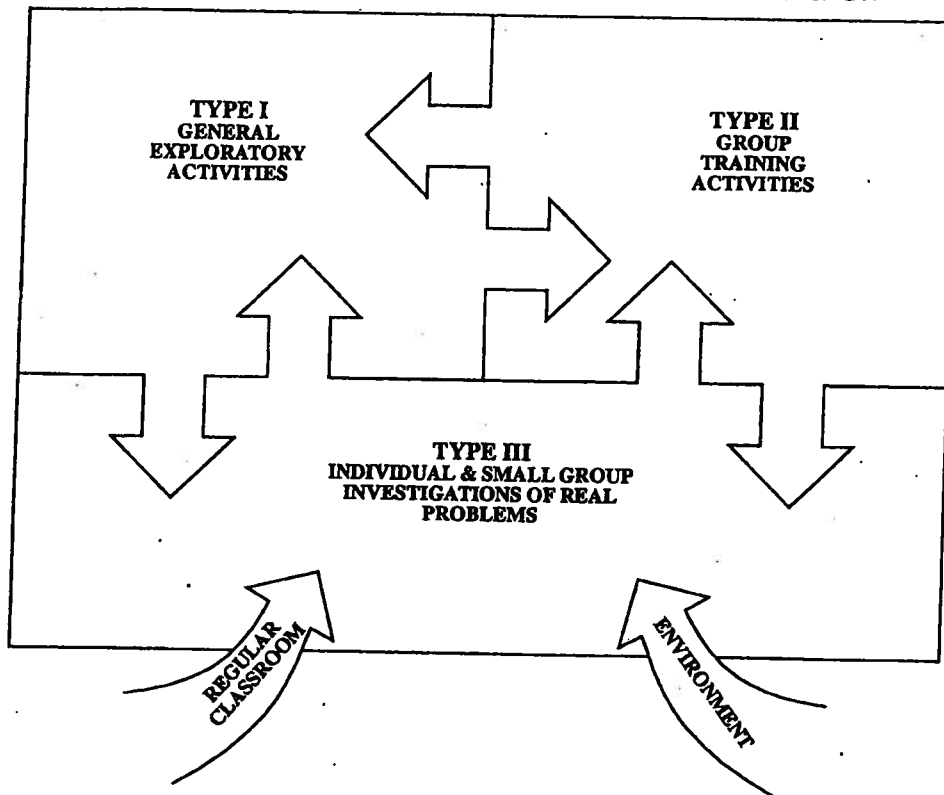
II. Character Development and Affective Process Skills	K-3	4-8	9-12
A. Character Development			
B. Interpersonal Skills			
C. Intrapersonal Skills			

III. Learning How-To Learn Skills	K-3	4-8	9-12
A. Listening, Observing, and Perceiving			
B. Reading, Notetaking, and Outlining			
C. Interviewing and Surveying			
D. Analyzing and Organizing Data			

IV. Using Advanced Research Skills & Reference Materials	K-3	4-8	9-12
A. Preparing for Research, Investigative, and Creative Projects (Methodological Skills)			
B. Library and Electronic Reference			
C. Finding and Using Community Resources			

V. Written, Oral, and Visual Communication Skills	K-3	4-8	9-12
A. Written Communication Skills			
B. Oral Communication Skills			
C. Visual Communication Skills			

The Enrichment Triad Model



TYPE I ENRICHMENT

Type I Enrichment consists of experiences and activities that are designed to bring the learner in touch with the kinds of topics or areas of study in which he or she may develop a sincere interests. Through involvement in Type I experiences, students will be in a better position to decide if they would like to do further research on a particular problem or area of interests.

TYPE II ENRICHMENT

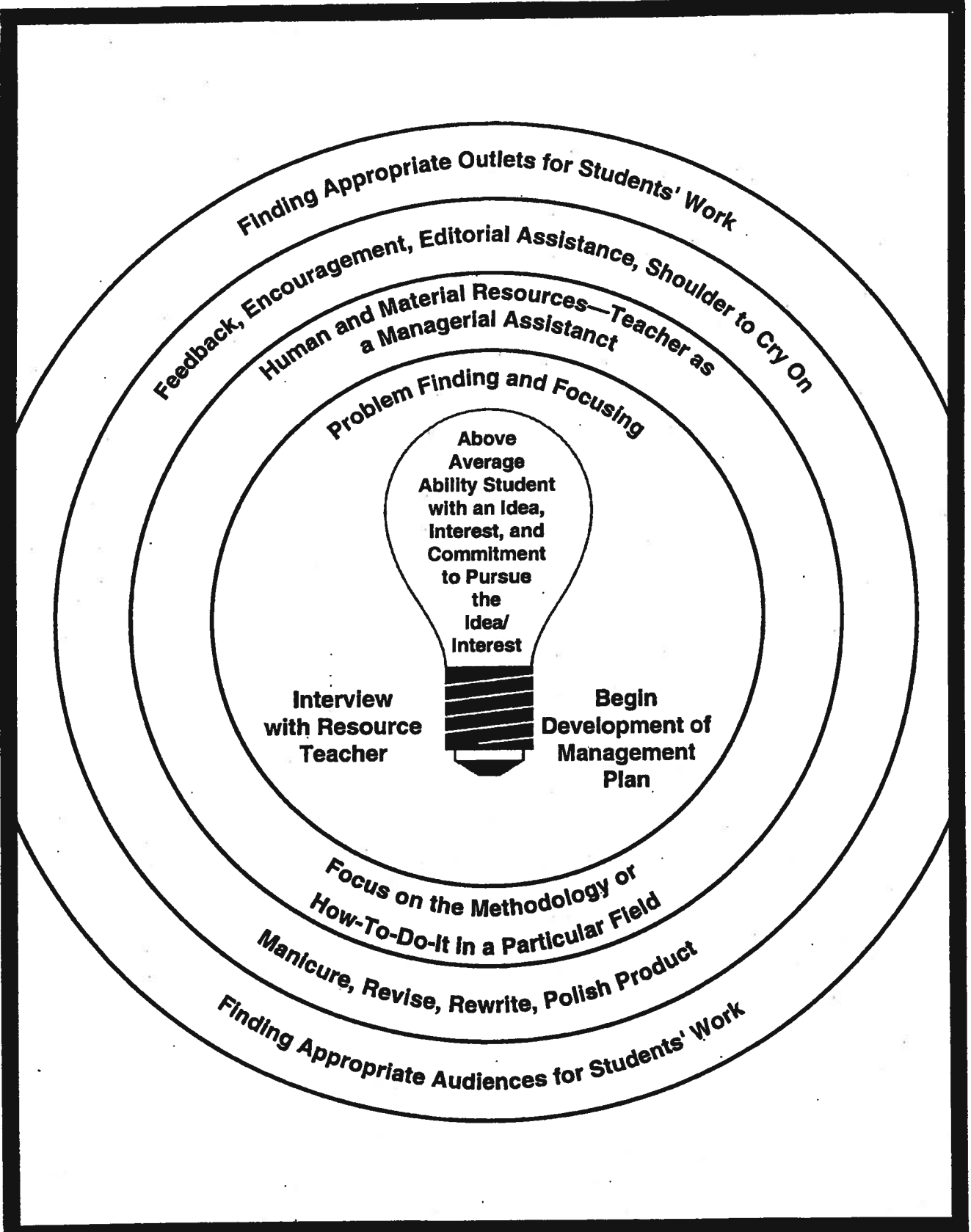
Type II Enrichment consists of materials, methods, and instructional techniques that are concerned with the development of higher-level thinking and feeling processes. These processes include critical thinking, problem solving, inquiry training, divergent thinking, awareness development, and creative or productive thinking. Type II activities are open-ended and allow students to escalate their thinking processes to the highest levels possible. Type II activities are also designed to introduce students to more advanced kinds of studies.

TYPE III ENRICHMENT

Type III Enrichment consists of activities in which the student becomes an actual investigator of a real problem of topic by using appropriate methods of inquiry. The success of a Type III activity depends on the interest and task commitment of the individual student. Examples of intensive, long-range Type III activities include the creation of a walking robot; the production of a dramatic marionette show which outlines the development of clowns from the thirteenth century to the present; a continuation of Tolkien's *Lord of the Rings* in the form of a novel; the writing and illustration of a children's Christmas book, etc.

Sample Enrichment Clusters

General Areas	Specific Examples of Clusters
Language Arts, Literature, and the Humanities	The Young Authors' Guild The Poets' Workshop The African-American Literary Society The Investigative Journalism Group <i>The Quarterly Review of Children's Literature</i>
Physical and Life Sciences	The Save the Dolphins Society The Physical Science Research Institute The Mansfield Environmental Protection Agency The Experimental Robotics Team
The Arts	The Electronic Music Research Institute The Visual Artists' Workshops The Meriden Theater Company The Native American Dance Institute The Video Production Company The Young Musicians' Ensemble The Photographers' Guild
Social Sciences	The Hispanic Cultural Awareness Association The Junior Historical Society The Social Science Research Team The Torrington Geographic Society The Creative Cartographers' Guild
Mathematics	The Math Materials Publication Company The Math Mentors' Association The Female Mathematicians' Support Group The Mathematics Competitions League <i>The Math Puzzle Challenge Quarterly</i>
Computers	The Computer Graphics Design Team The Computer Games Production Company The Computer Literacy Assistance Association The Creative Software Society The Desktop Publishing Company
Physical Education	The Experimental Games Research Team The Physiology of Sport Study Group The Physical Fitness Support Group The Institute for the Study of Multicultural Recreation
Industrial Arts/ Home Economics	The Creative Furniture Design Company The Architecture for Learning Research Team The Experimental Dietary Group The Future Fashion Research Institute The Child Care Assistance Group



Finding Appropriate Outlets for Students' Work

Feedback, Encouragement, Editorial Assistance, Shoulder to Cry On

Human and Material Resources—Teacher as a Managerial Assistant

Problem Finding and Focusing

Above Average Ability Student with an Idea, Interest, and Commitment to Pursue the Idea/Interest

Interview with Resource Teacher

Begin Development of Management Plan

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

Manicure, Revise, Rewrite, Polish Product

Finding Appropriate Audiences for Students' Work

Major Features of Enrichment Clusters

Theme: *Every student is special if we create conditions that make each student a specialist in a specialized group.*

- 1. The Golden Rule of Enrichment Clusters: All activity is directed toward the production of a product or service.**
- 2. Students *and* teachers select the clusters in which they will participate. All students and teachers are involved.**
- 3. Students are grouped across grade levels by interest areas.**
- 4. There are no predetermined lesson or unit plans.**
- 5. The authentic methods of professional investigators are used to pursue product and service development.**
- 6. Divisions of labor are used to guarantee that all students are not doing the same thing.**
- 7. Specially designated time blocks are set aside for clusters.**
- 8. The Silver Rule of Enrichment Clusters: The rules of regular schooling are suspended!**

Six Key Questions

[For Facilitating an Enrichment Cluster of Type III Investigation]

- 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?**