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Using the Schoolwide Enrichment Model to Enrich Curriculum for All Students

Joseph S. Renzulli & Sally M. Reis

Introduction

The Schoolwide Enrichment Model (SEM) gives each teacher the flexibility to develop unique programs for talent development and enrichment based on local resources, student demographics, and school dynamics as well as faculty strengths and creativity. The major goal of SEM is to promote both challenging and enjoyable high-end learning across a wide range of school types, levels, and demographic differences. Using the SEM, each school faculty can create a repertoire of services that can be integrated into their its regular curriculum to extend enrichment for all children to create a "rising tide lifts all ships" approach. This approach enables schools to develop a collaborative school culture that takes advantage of resources and appropriate decision-making opportunities to create meaningful, high-level, and potentially creative opportunities for students to develop their talents.

The SEM suggests that educators examine ways to make schools more inviting, friendly, and enjoyable places that encourage talent development instead of regarding students as repositories for information that will be assessed with the next round of standardized tests. Not only has this model been successful in addressing the problem of high-potential students who have been under-challenged, but it also provides additional important learning paths for gifted and talented students who find success in more traditional learning environments.

The curricular and instructional core of the SEM is the Enrichment Triad Model (Renzulli, 1976) developed in the mid-1970s and initially implemented by school districts primarily in the northeast part of the United States. The model became very popular, and requests were received from throughout the United States for visitations to schools using the triad and for information about how to implement the model. A book about the Enrichment Triad Model (Renzulli, 1977) was published, and more and more districts began asking for help in implementing this approach. It was at this point that a clear need was established for research about the effectiveness of the model and for practical procedures that could provide technical assistance for interested educators to help develop programs in their schools. We established a training program for teachers at the University of Connecticut called Confratute, which was followed by the development of many more programs based on the Enrichment Triad Model. We became fascinated by the wide range of triad programs developed by different types of teachers in different school districts, including urban, rural, and suburban districts. In some programs, for example, teachers consistently encouraged and developed high levels of creative productivity in students. In other programs, teachers focused on process development and exposure activities but few students engaged in independent, creative, productive-type learning based on their interests.

In some districts, many enrichment opportunities were regularly offered to students not formally identified for the program, whereas in other districts, only identified gifted students had access to these different types of enrichment experiences.

In the three decades since the Enrichment Triad Model has been used as the basis for educational programs for gifted and talented students, many diverse examples of creative work have been completed by students whose educational experiences have been guided by this approach. Children have written books; written, produced, and directed plays; conducted sophisticated science experiments; conducted original historical and scientific research; and also completed sophisticated computer and technological projects. They have become involved in social projects designed to improve and save the environment and help those in need in their community.

Perhaps, like others involved in the development of theories and models, we did not fully understand the full implications of the Enrichment Triad Model for encouraging and developing creative productivity in young people. These implications relate most directly to teacher training, resource procurement and management, product evaluation, and other theoretical concerns (e.g., motivation, task commitment, self-efficacy) that probably would have gone unexamined, undeveloped, and unrefined without the favorable results that were reported to us by early implementers of the model. We became increasingly interested in how and why the model was working and how we could further expand the theoretical rationale underlying our work and the population to which services could be provided. We also did not understand the longitudinal implications of enabling children to pursue their interests on their adult choices for postsecondary education and also their careers. Several years of conceptual development followed, which were coupled with our practical experiences, and an examination of the work of other theorists brought us to the further development of the Enrichment Triad Model and the resulting SEM, representing approximately 30 years of field testing, research, evolution, and dissemination.

In this chapter, an overview of the conception of giftedness on which this model is based is presented, as is a description of the original Enrichment Triad Model with a brief overview of how the model has expanded and changed. All components of the SEM are introduced, followed by more in-depth chapters about each of these separate services. Selected research about the SEM is discussed and a brief summary of the research dealing with the SEM is provided.

Expanding Conceptions of Gifts and Talents: The Theory Underlying the SEM

The study of how to develop gifts and talents, like any other specialized area of study, represents a spectrum of ideologies that exists along a continuum ranging from conservative to liberal points of view. *Conservative* and *liberal* are not used here in their political connotations, but rather according to the degree of restrictiveness that is used in determining who is eligible for special programs and services. Restrictiveness can be expressed in two ways; first, a definition can limit the number of specific performance areas that are considered in determining eligibility for special services. A conservative definition, for example, might limit eligibility to academic performance only and exclude other areas such as music, art, drama, leadership, public speaking, social service, creative writing, or skills in interpersonal relations. Second, a definition can limit the degree or level of excellence that one must attain by establishing extremely high cutoff points.

Although liberal definitions have the obvious advantage of expanding the conception of giftedness, they also open up two theoretical concerns by introducing: (a) a values issue (How do we define broader conceptions of giftedness?) and (b) the age-old problem of subjectivity in measurement. In recent years, the values issue has been largely resolved. Very few educators cling tenaciously to a "straight IQ" or purely academic definition of giftedness. *Multiple talent* and *multiple criteria* are almost the bywords of the present-day attempts to identify high potential, and most people have little difficulty in accepting a definition that includes most areas of human activity that are manifested in socially useful forms of expression.

Two Kinds of Giftedness

It is generally accepted that intelligence is not a unitary concept, but rather there are many kinds of intelligence, and, therefore, single definitions cannot be used to explain this multifaceted phenomenon. The confusion and inconclusiveness about present theories of intelligence has led Sternberg (1984) and others to develop new models for explaining this complicated concept. Sternberg's "triarchic" theory of human intelligence consists of three main kinds of giftedness: analytic, synthetic, and practical abilities. Gardner (1983) proposed seven distinctive types of intelligent behavior that he called linguistic, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, and the recently added naturalist intelligence.

This recent work, coupled with our own research described in this chapter, suggests that at the very least, attributes of intelligent behavior must be considered in the context of cultural and situational factors. There is no ideal way to measure intelligence, and, therefore, we must avoid the typical practice of believing that if we know a person's IQ score, we also know his or her intelligence. The historical difficulty of defining and measuring intelligence highlights the even larger problem of isolating a unitary definition of giftedness. To help in this analysis, two broad categories of giftedness are described: high-achieving or schoolhouse giftedness and creative-productive giftedness. Before describing each type, we want to emphasize that:

1. Both types are important.
2. There is usually an interaction between the two types.
3. Special programs should make appropriate provisions for encouraging both types of giftedness as well as the numerous occasions when the two types interact with each other.

High-Achieving (Schoolhouse) Giftedness

High-achieving giftedness might also be called test-taking or lesson-learning giftedness. It is the kind most easily measured by IQ or other cognitive ability tests, and for this reason, it is also the type most often used for selecting students for entrance into special programs. The abilities people display on IQ and aptitude tests are exactly the kinds of abilities most valued in traditional school learning situations. In other words, the tasks required in ability tests are similar in nature to tasks that teachers require in most lesson-learning situations. A large body of research tells us that students who score high on IQ tests are also likely to get high grades in school, and that these test-taking and lesson-learning abilities generally remain stable over time. The results of this research should lead us to some very obvious conclusions about high-achieving giftedness: It exists in varying degrees, it can be identified through standardized

assessment techniques, and we should therefore do everything in our power to make appropriate modifications for students who have the ability to cover regular curricular material at advanced rates and levels of understanding. Curriculum compacting (Reis, Burns, & Renzulli, 1992; Renzulli, Smith, & Reis, 1982) is a procedure described in Chapter Five used for modifying standard curricular content to accommodate advanced learners. Other acceleration techniques should represent essential parts of every school program that strives to respect the individual differences that are clearly evident from classroom performance or scores yielded by cognitive ability tests.

Creative-Productive Giftedness

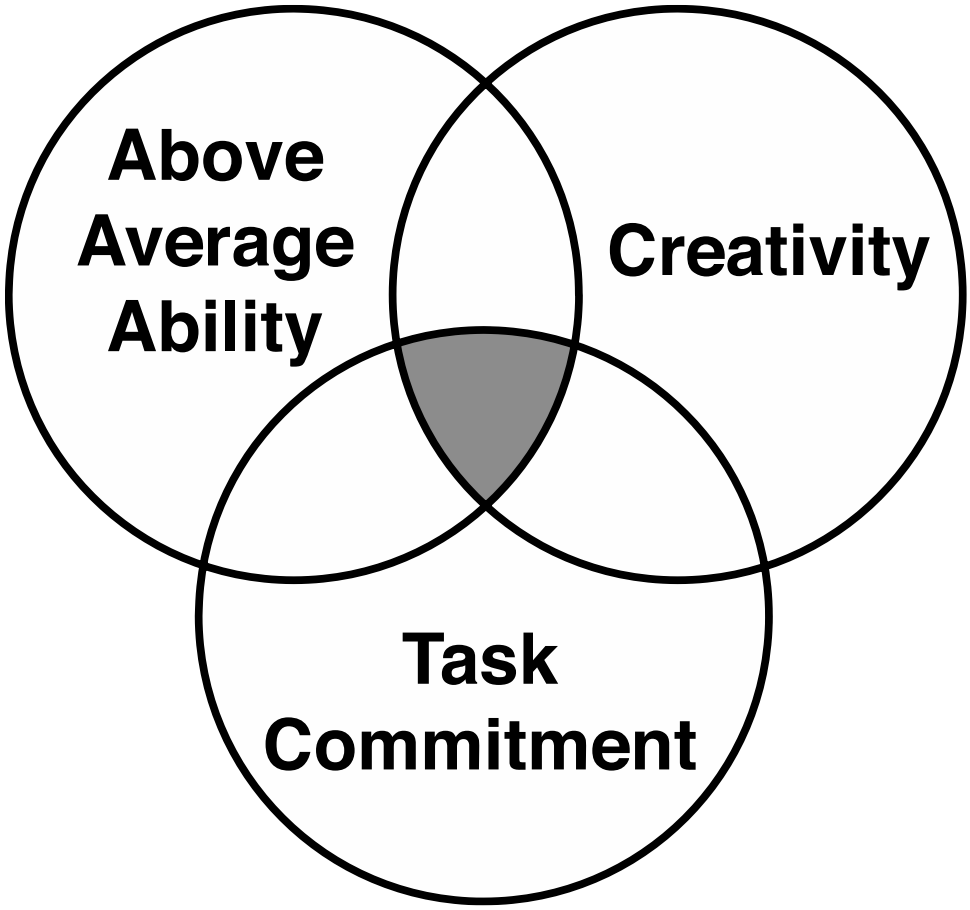
If scores on IQ tests and other measures of cognitive ability only account for a limited proportion of the common variance with school grades, we can be equally certain that these measures do not tell the whole story when it comes to making predictions about creative-productive giftedness. Before defending this assertion with some research findings, we briefly review what is meant by this second type of giftedness, the important role that it should play in programming, and, therefore, the reasons we should attempt to assess it in our identification procedures—even if such assessment causes us to look below the top 3% to 5% on the normal curve of IQ scores.

Creative-productive giftedness describes those aspects of human activity and involvement in which a premium is placed on the development of original material and products that are purposefully designed to have an effect on one or more target audiences. Learning situations that are designed to promote creative-productive giftedness emphasize the use and application of information (content) and thinking skills (process) in an integrated, inductive, and real-problem-oriented manner. The role of the student is transformed from that of a learner of prescribed lessons to one in which he or she becomes a firsthand inquirer. This approach is quite different from the development of lesson-learning giftedness, which tends to emphasize deductive learning, structured training in the development of thinking processes, and the acquisition, storage, and retrieval of information. In other words, creative-productive giftedness is simply putting one's abilities to work on problems and areas of study that have personal relevance to the student and that can be escalated to appropriately challenging levels of investigative activity. The roles that both students and teachers should play in the pursuit of these problems have been described elsewhere (Renzulli, 1977; 1982), and have been embraced in general education under a variety of concepts such as constructivist theory, authentic learning, discovery learning, problem-based learning, and performance assessment.

Why is creative-productive giftedness important enough for us to question the tidy and relatively easy approach that has traditionally been used to select students on the basis of test scores? Why do some people want to rock the boat by challenging a conception of giftedness that can be numerically defined by simply giving a test? The answers to these questions are simple and yet very compelling. A review of the research literature (Renzulli, 1986, 2005) shows that there is much more to identifying human potential than the abilities revealed on traditional tests of intelligence, aptitude, and achievement. Furthermore, history shows that it has been the creative and productive people of the world, the producers rather than consumers of knowledge, the reconstructionists of thought in all areas of human endeavor, who have become recognized as truly gifted individuals. History does not remember people who merely scored well on IQ tests or

those who learned their lessons well. The definition of giftedness (see Figure 1) that characterizes creative-productive giftedness and serves as part of the rationale for the SEM is the three-ring conception of giftedness (Renzulli, 1978, 1986, 2005), in which giftedness is defined as an interaction among three basic clusters: being above-average in general in ability, high levels of creativity, and task commitment.

Figure 1: The Three-Ringed Conception of Giftedness



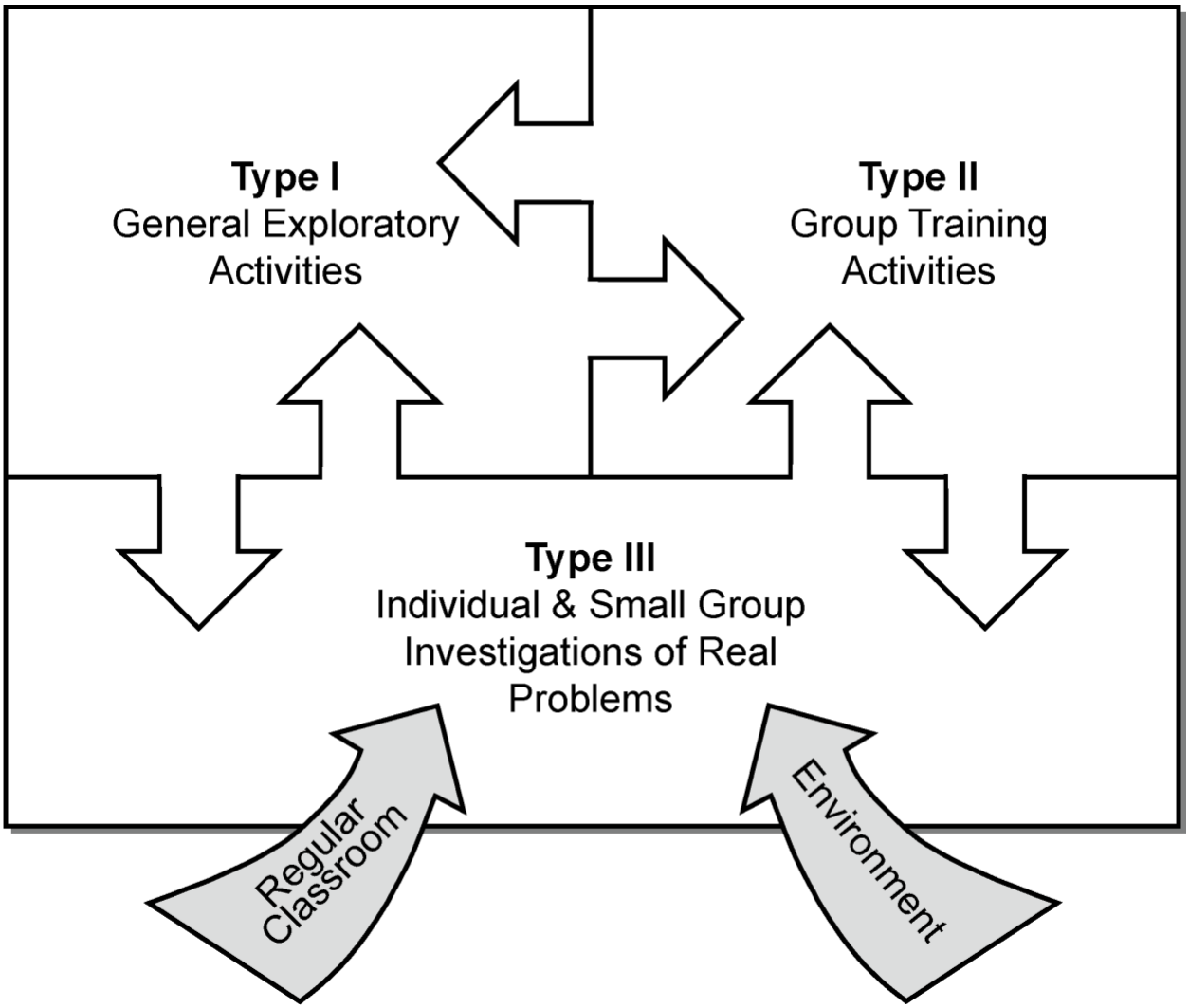
Gifted behavior consists of behaviors that reflect an interaction among three basic clusters of human traits—above-average ability, high levels of task commitment, and high levels of creativity. Individuals capable of developing gifted behavior are those possessing or capable of developing this composite set of traits and applying them to any potentially valuable area of human performance. People who manifest or are capable of developing an interaction among the three clusters require a wide variety of educational opportunities and services that are not ordinarily provided through regular instructional programs (Renzulli & Reis, 1997, p. 8).

Students with these potentials can develop this composite set of potentials with a variety of educational opportunities and services offered in addition to regular instructional programming. We believe that gifted behaviors can be developed through the systematic enrichment opportunities described in the SEM.

An Overview of the Enrichment Triad Model

The Enrichment Triad Model was designed to encourage creative productivity on the part of young people by exposing them to various topics, areas of interest, and fields of study, and to further train them to apply advanced content, process-training skills, and methodology training to self-selected areas of interest. Three types of enrichment are included in the Triad Model (see Figure 2).

Figure 2: The Enrichment Triad Model



Type I enrichment is designed to expose students to a wide variety of disciplines, topics, occupations, hobbies, people, places, and events that would not ordinarily be covered in the regular curriculum. In schools that use this model, an enrichment team consisting of parents, teachers, and students often organizes and plans Type I experiences by contacting speakers; arranging minicourses, demonstrations, or performances; or ordering and distributing films, slides, videotapes, or other print or nonprint media.

Type II enrichment consists of materials and methods designed to promote the development of thinking and feeling processes. Some Type II training is general and is usually carried out both in classrooms and in enrichment programs. Training activities include the development of the skills outlined in Figure 3: (a) cognitive thinking and problem solving, critical thinking, and affective processes; (b) character development and affective skills; (c) a variety of specific learning-how-to-learn skills; (d) appropriate use of advanced-level reference materials; and (5) written, oral, and visual communication skills. Other Type II enrichment is specific, as it cannot be planned in advance and usually involves advanced methodological instruction in an interest area selected by the student. For example, students who become interested in botany after a Type I experience might pursue additional training in this area by doing advanced reading in botany; compiling, planning, and carrying out plant experiments; and seeking more advanced methods training if they want to go further.

Type III enrichment involves students who become interested in pursuing a self-selected area and are willing to commit the time necessary for advanced content acquisition and process training, in which they assume the role of a firsthand inquirer. In Type III enrichment, teachers

- provide opportunities for applying interests, knowledge, creative ideas, and task commitment to a self-selected problem or area of study;
- help students to acquire advanced-level understanding of the knowledge (content) and methods (process) that are used within particular disciplines, artistic areas of expression, and interdisciplinary studies;
- coach students to develop authentic products that are primarily directed toward bringing about a desired impact on a specified audience;
- help students learn self-directed learning skills in the areas of planning, organization, resource utilization, time management, decision making, and self-evaluation; and
- work with students to develop task commitment, self-confidence, and feelings of creative accomplishment.

The Revolving Door Identification Model: Identifying Students for the SEM

As our experience with Triad Programs grew, our concern about the students who were being identified to participate and those who were not being included in these programs also grew. We became increasingly concerned about students who were not able to participate in enrichment programs because they did not score in the top 1% to 3% of the population in achievement or intelligence tests. Research conducted by Torrance (1962, 1974) had demonstrated that students who were rated highly on creativity measures do well in school and on achievement tests but are often not selected for gifted programs because their scores are often below the cutoff for admission. Some of our own research (Reis & Renzulli, 1982) indicated that when a broader population of students (15% to 20% of the general population called the "talent pool") was able to participate in Types I and II enrichment experiences, they produced equally good Type III products as the traditional gifted students (the top 3% to 5%). This research produced the rationale for the Revolving Door Identification Model (RDIM) (Renzulli, Reis, & Smith, 1981), in which a talent pool of students receives regular enrichment experiences and the opportunity to "revolve into" Type III creative productive experiences. In the RDIM, we recommended that students be selected for participation in the talent pool on the basis of multiple criteria, which

Figure 3: Taxonomy of Cognitive and Affective Processes

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

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, & Perceiving			
B. Reading, Notetaking, & Outlining			
C. Interviewing & Surveying			
D. Analyzing & Organizing Data			

IV. Using Advanced Research Skills & Reference Materials	K–3	4–8	9–12
A. Preparing for Research & Investigative Projects			
B. Library & Electronic Reference			
C. Finding & 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			

include indices of creativity, because we believe that one of the major purposes of gifted education is to develop creative thinking and creative productivity in students. Once identified and placed in the talent pool through the use of test scores; teacher-, parent-, or self-nomination; and examples of creative potential or productivity, students are observed in classrooms and

enrichment experiences for signs of advanced interests, creativity, or task commitment. We have called this part of the process "action information" and have found it to be an instrumental part of the identification process in assessing students' interest in and motivation to become involved in Type III creative productivity. Further support for expanding identification procedures through the use of these approaches has recently been offered by Kirschenbaum (1983) and Kirschenbaum, and Siegle (1993), who demonstrated that students who are rated or test high on measures of creativity tend to do well in school and on measures of achievement. The development of the RDIM led to the need for a guide dealing with how all of the components of the previous triad and the new expanded identification could be implemented. The resulting work was entitled *The Schoolwide Enrichment Model* (Renzulli & Reis, 1985, 1997).

The SEM

All schools implement the SEM in a way that fits with their own vision of enrichment and talent development. In some schools, the entire student population is considered the talent pool, whereas in others, a talent pool of 10% to 15% of above-average-ability and high-potential students is identified through a variety of measures, including achievement tests, teacher nominations, assessment of potential for creativity and task commitment, as well as alternative pathways of entrance (self-nomination, parent nomination, etc.). High achievement test and IQ test scores usually include a student in the talent pool, enabling those students who are underachieving in their academic schoolwork to be included.

Once students are identified for the talent pool, they are eligible for several kinds of services; first, interest and learning styles assessments are used with talent-pool students. Informal and formal methods are used to create or identify students' interests and to encourage students to further develop and pursue these interests in various ways. Learning style preferences that are assessed include: projects, independent study, teaching games, simulations, peer teaching, programmed instruction, lecture, drill and recitation, and discussion. Second, curriculum compacting is provided to all eligible students for whom the regular curriculum is modified by eliminating portions of previously mastered content. This elimination or streamlining of curriculum enables above-average students to avoid repetition of previously mastered work and guarantees mastery while simultaneously finding time for more appropriately challenging activities (Reis, Burns, & Renzulli, 1992; Renzulli, Smith, & Reis, 1982). A form, entitled the Compactor (Renzulli & Smith, 1978), is used to document which content areas have been compacted and what alternative work has been substituted. Third, the Enrichment Triad Model offers three types of enrichment experiences. Type I, II, and III enrichment are offered to all students; however, Type III enrichment is usually more appropriate for students with higher levels of ability, interest, and task commitment.

Separate studies on the SEM demonstrated its effectiveness in schools with widely differing socioeconomic levels and program organization patterns (Olenchak, 1988; Olenchak & Renzulli, 1989). A brief research summary is included at the end of this chapter. The SEM has been implemented in thousands of school districts across the country (Burns, 1998), and interest in this approach continues to grow.

Components of the SEM

The present reform initiatives in general education have created a more receptive atmosphere for more flexible approaches that challenge all students, and accordingly, the SEM addresses the ways in which we can provide challenging and enriching learning experiences for all students by (see Figure 2):

- offering a continuum of special services that will challenge students with demonstrated superior performance or the potential for superior performance in any and all aspects of the school and extracurricular program;
- infusing into the general education program a broad range of activities for high-end learning that will (a) challenge all students to perform at advanced levels and (b) allow teachers to determine which students should be given extended opportunities, resources, and encouragement in particular areas in which superior interest and performance are demonstrated; and
- funding the positions of an enrichment specialist to carry out the first two goals.

The Regular Curriculum

The regular curriculum consists of everything that is a part of the predetermined goals, schedules, learning outcomes, and delivery systems of the school. The regular curriculum might be traditional, innovative, or in the process of transition, but its predominant feature is that authoritative forces (i.e., policy makers, school councils, textbook adoption committees, state regulators) have determined that the regular curriculum should be the centerpiece of student learning. Application of the SEM influences the regular curriculum in three ways. First, the challenge level of required material is differentiated through processes such as curriculum compacting and textbook content modification procedures. Second, systematic content intensification procedures should be used to replace eliminated content with selected, in-depth learning experiences. Third, the types of enrichment recommended in the Enrichment Triad Model (Renzulli, 1977) are integrated selectively into regular curriculum activities. Although our goal in the SEM is to influence rather than replace the regular curriculum, application of certain SEM components and related staff development activities has resulted in substantial changes in both the content and instructional processes of the entire regular curriculum.

The Enrichment Clusters

The enrichment clusters, a second component of the SEM, are nongraded groups of students who share common interests and who come together during specially designated time blocks during school to work with an adult who shares their interests and who has some degree of advanced knowledge and expertise in the area. The enrichment clusters usually meet for a block of time weekly during a semester. All students complete an interest inventory developed to assess their interests, and an enrichment team of parents and teachers tally all of the major families of interests. Adults from the faculty, staff, parents, and community are recruited to facilitate enrichment clusters based on these interests, such as creative writing, drawing, sculpting, archeology, and other areas. Training is provided to the facilitators who agree to offer the clusters, and a brochure is developed and sent to all parents and students that discusses student

interests and select choices of enrichment clusters. A sample cluster title and description of a cluster in a school using the SEM follows:

Invention Convention

Are you an inventive thinker? Would you like to be? Brainstorm a problem, try to identify many solutions, and design an invention to solve the problem, as an inventor might give birth to a real invention. Create your invention individually or with a partner under the guidance of Bob Erikson and his students, who work at the Connecticut Science Fair. You may decide to share your final product at the Young Inventors' Fair on March 25th, a statewide daylong celebration of creativity.

Students select their top three choices for the clusters, and scheduling is completed to place all children into their first or, in some cases, second choice. Like extracurricular activities and programs such as 4-H and Junior Achievement, the main rationale for participation in one or more clusters is that students and teachers want to be there. All teachers (including music, art, physical education, etc.) are involved in teaching the clusters, and their involvement in any particular cluster is based on the same type of interest assessment that is used for students in selecting clusters of choice.

The model for learning used with enrichment clusters is based on an inductive approach to solving real-world problems through the development of authentic products and services. Unlike traditional, didactic modes of teaching, this approach, known as enrichment learning and teaching (described fully in a later section), uses the Enrichment Triad Model to create a learning situation that involves the use of methods, develops higher order thinking skills, and authentically applies these skills in creative and productive situations. Enrichment clusters promote cooperation in the context of real-world problem solving, and they also provide superlative opportunities for promoting self-concept. "A major assumption underlying the use of enrichment clusters is that *every child is special if we create conditions in which that child can be a specialist within a specialty group*" (Renzulli, 1994, p. 70).

Enrichment clusters are organized around the various characteristics of differentiated programming for gifted students on which the Enrichment Triad Model (Renzulli, 1977) was originally based, including the use of major disciplines, interdisciplinary themes, or cross-disciplinary topics (e.g., a theatrical and television production group that includes actors, writers, technical specialists, and costume designers). The clusters are modeled after the ways in which knowledge utilization, thinking skills, and interpersonal relations take place in the real world. Thus, all work is directed toward the production of a product or service. A detailed set of lesson plans or unit plans are not prepared in advance by the cluster facilitator; rather, direction is provided by three key questions addressed in the cluster by the facilitator and the students:

1. What do people with an interest in this area (e.g., film making) do?
2. What knowledge, materials, and other resources do they need to do it in an excellent and authentic way?
3. In what ways can the product or service be used to have an impact effect on an intended audience?

Enrichment clusters incorporate the use of advanced content, providing students with information about particular fields of knowledge, such as the structure of a field as well as the basic principles and the functional concepts in a field (Ward, 1960). Ward (1960) defined functional concepts as the intellectual instruments or tools with which a subject specialist works, such as the vocabulary of a field and the vehicles by which people in the field communicate with one another. The method used in a field is also considered advanced content by Renzulli (1988), involving the use of knowledge of the structures and tools of fields, as well as knowledge about the methods of particular fields. This knowledge about the methods of fields exists both for the sake of increased knowledge acquisition and also for the utility of that know-how as applied to the development of products, even when such products are considered advanced in a relative sense (i.e., age, grade, and background considerations).

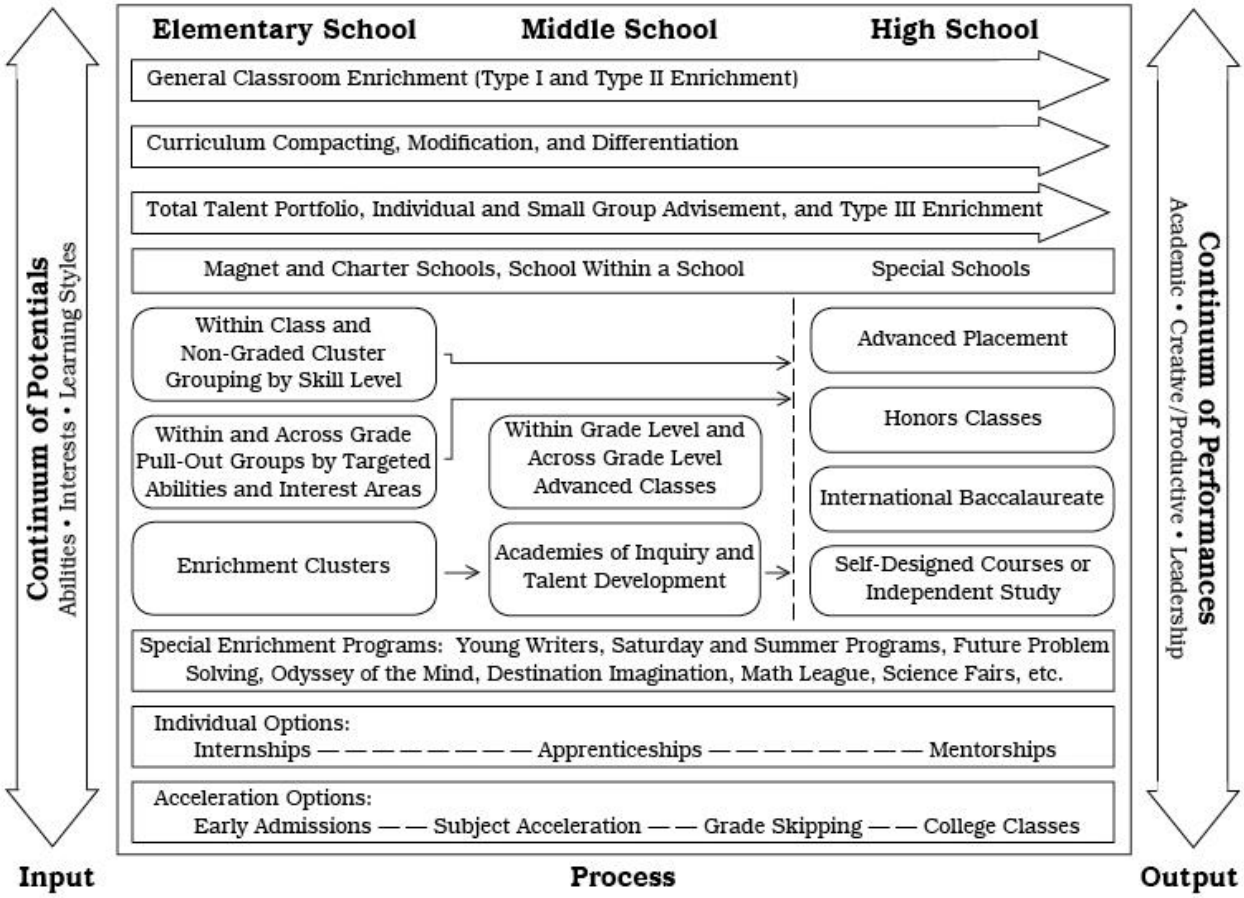
The enrichment clusters are not intended to be the total program for talent development in a school or to replace existing programs for talented youth. Rather, they are one vehicle for stimulating interests and developing talent potentials across the entire school population. They are also vehicles for staff development, in that they provide teachers an opportunity to participate in enrichment teaching and subsequently to analyze and compare this type of teaching with traditional methods of instruction. In this regard, the model promotes a spill-over effect by encouraging teachers to become better talent scouts and talent developers, and to apply enrichment techniques to regular classroom situations.

The Continuum of Special Services

A broad range of special services is the third school structure in the SEM, and a diagram representing these services is presented in Figure 4 and elaborated on in Chapter Four. Although the enrichment clusters and the SEM-based modifications of the regular curriculum provide a broad range of services to meet individual needs, a program for total talent development still requires supplementary services that challenge our most academically talented young people, who are capable of working at the highest levels of their special interest and ability areas. These services, which cannot ordinarily be provided in enrichment clusters or the regular curriculum, typically include providing individual or small-group counseling, allowing various types of acceleration, giving direct assistance in facilitating advanced-level work, arranging for mentorships with faculty or community members, and making other types of connections between students, their families, and out-of-school people, resources, and agencies.

Direct assistance also involves setting up and promoting student, faculty, and parental involvement in special programs such as Future Problem Solving Program International, Odyssey of the Mind, the Model United Nations program, and state and national essay competitions, mathematics, art, and history contests. Another type of direct assistance consists of arranging out-of-school involvement for individual students in summer programs, on-campus courses, special schools, theatrical groups, scientific expeditions, and apprenticeships at places where advanced-level learning opportunities are available. Provision of these services is one of the responsibilities of the enrichment specialist or an enrichment team of teachers and parents who work together to provide options for advanced learning. Most enrichment teaching specialists spend two days a week in a resource capacity to the faculty and three days providing direct services to students.

Figure 4: The Continuum of Services for Total Talent Development



The Service Delivery Components

The Total Talent Portfolio

The SEM targets specific learning characteristics that can serve as a basis for talent development. Our approach to targeting learning characteristics uses both traditional and performance-based assessment to compile information about three dimensions of the learner—abilities, interests, and learning styles. This information, which focuses on strengths rather than deficits, is compiled in a management form called the "Total Talent Portfolio," described more fully in Chapter Three and shown in Figure 5. It is used to make decisions about talent development opportunities in regular classes, enrichment clusters, and in the continuum of special services. The major purposes of the Total Talent Portfolio are:

1. To collect several different types of information that portray a student's strength areas and to regularly update this information.
2. To classify this information into the general categories of abilities, interests, and learning styles, as well as related markers of successful learning such as organizational skills, content area preferences, personal and social skills, preferences for creative productivity, and learning-how-to-learn. skills.

3. To periodically review and analyze the information to make purposeful decisions about providing opportunities for enrichment experiences in the regular classroom, the enrichment clusters, and the continuum of special services.
4. To negotiate various acceleration and enrichment learning options and opportunities between teacher and student through participation in a shared decision-making process.
5. To use the information as a vehicle for educational, personal, and career counseling and for communicating with parents about the school's talent development opportunities and their child's involvement in them.

Figure 5: The Total Talent Portfolio

Abilities	***Interests***	***Style Preferences***	***Style Preferences***	***Style Preferences***	***Style Preferences***
Maximum Performance Indicators	***Interest Areas***	***Instructional Styles Preferences***	***Learning Environment Preferences***	***Thinking Styles Preferences***	***Expression Style Preferences***
Tests Standardized • Teacher-Made • Course Grades Teacher Ratings **Product Evaluation** • Written • Oral • Visual • Musical • Constructed (Note differences between assigned and self-selected products) Level of Participation in Learning Activities Degree of Interaction With Others Ref: General Tests and Measurements Literature	Fine Arts Crafts Literary Historical Mathematical/ Logical Physical Sciences Life Sciences Political/Judicial Athletic/Recreation Marketing/ Business Drama/Dance Musical Performance Musical Composition Managerial/ Business Photography Film/Video Computers Other (Specify) Ref: Renzulli, 1997	Recitation & Drill Peer Tutoring Lecture Lecture/ Discussion Discussion Guided Independent Study * Learning/Interest Center Simulation, Role Playing, Dramatization, Guided Fantasy Learning Games Replicative Reports or Projects* Investigative Reports or Projects* Unguided Independent Study* Internship* Apprenticeship* *With or without a mentor Ref: Renzulli & Smith, 1978	**Inter/Intra Personal** • Self-Oriented • Peer-Oriented • Adult-Oriented • Combined **Physical** • Sound • Heat • Light • Design • Mobility • Time of Day • Food Intake • Seating Ref: Amabile, 1983; Dunn, Dunn, & Price, 1977; Gardner, 1983	Analytic (School Smart) Synthetic/Creative (Creative, Inventive) Practical/ Contextual (Street Smart) Legislative Executive Judicial Ref: Sternberg, 1984, 1988a, 1990	Written Oral Manipulative Discussion Display Dramatization Artistic Graphic Commercial Service Ref: Renzulli & Reis, 1985

This expanded approach to identifying talent potentials is essential if we are to make genuine efforts to include more underrepresented students in a plan for total talent development. This approach is also consistent with the more flexible conception of developing gifts and talents

that has been a cornerstone of our work and our concerns for promoting more equity in special programs.

Curriculum Compacting and Differentiation Techniques

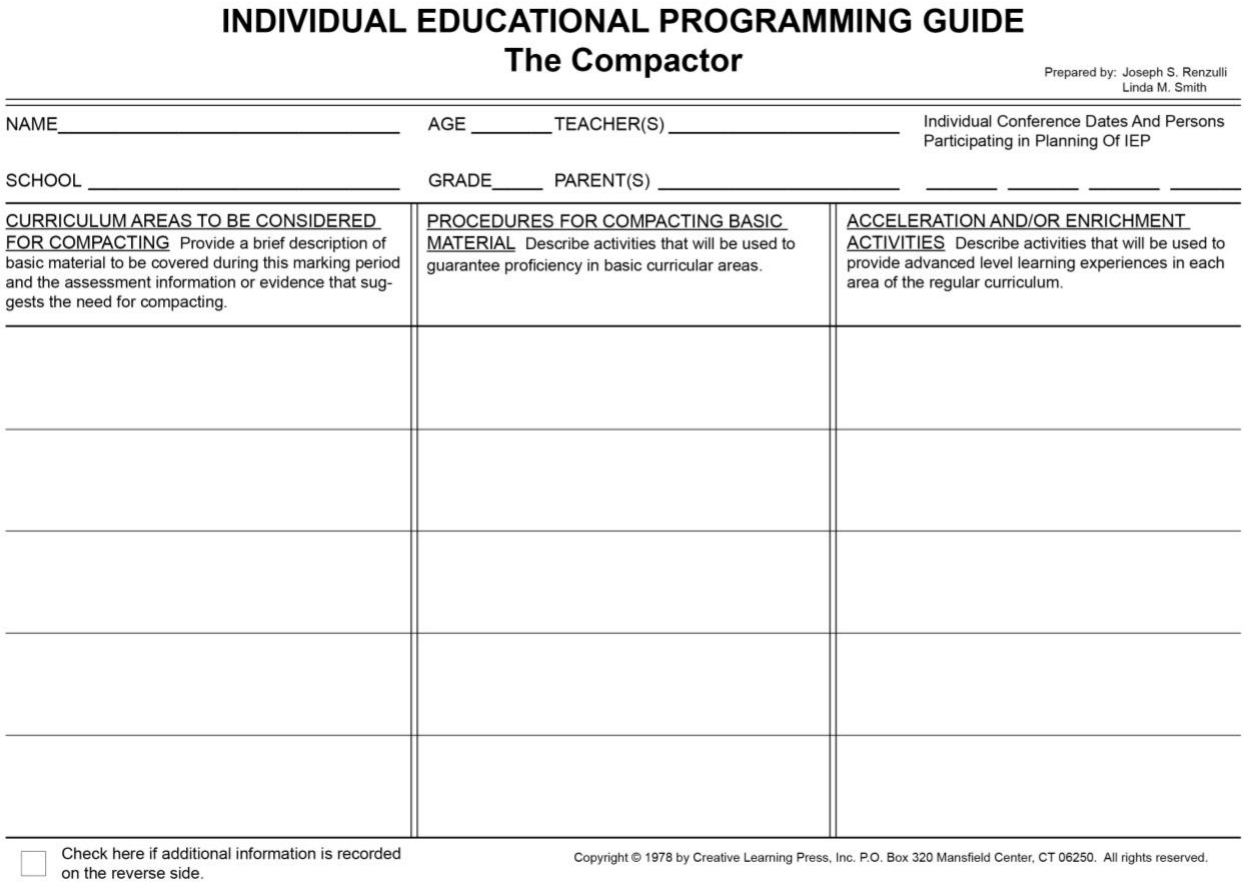
The next service delivery component of the SEM is a series of curriculum modification techniques, described more fully in Chapter Five, that are designed to: (a) adjust levels of required learning so that all students are challenged, (b) increase the number of in-depth learning experiences, and (c) introduce various types of enrichment into regular curricular experiences. The procedures used to carry out curriculum modification are curriculum compacting, textbook analysis and surgical removal of repetitious material from textbooks, and a planned approach for introducing greater depth into regular curricular material.

Students who are candidates for curriculum compacting and differentiation often have strengths, such as reading and language scores that range several years above grade level. This presents teachers with a common problem: how to instruct and challenge students like this. Compacting curriculum means that teachers pre-assess (using instruments or tests such as the appropriate unit tests for the grade level in the Basal Language Arts program) and excuse targeted students from completing the activities and worksheets in the units where they show proficiency. Students with high potential may participate in language arts lessons one or two days a week, and they spend the balance of the time with alternative projects, some of which are self-selected. This strategy may eliminate up to six or eight hours a week of language arts skills that are beneath these students' level. When pretests indicate that students do not have the required skills, they then participate in class instruction. In the time saved through compacting, students can engage in a number of enrichment activities. If, for example, science is an area of strength area or interest, students may conduct a science fair project on growing plants under various conditions or another area in which they have an interest. Teachers who use the system of compacting well explain that compacting curriculum actually saves time that would have been spent correcting papers that did not need to be assigned. The Compactor, as can be seen in Figure 6, can also be used as a vehicle for explaining to parents how specific modifications are being made to accommodate advanced achievement level and interests. A copy of the Compactor should also given to the next grade-level teacher, as conferences between teachers help ensure continuity in dealing with the child's special needs.

Enrichment Learning and Teaching

The third service delivery component of the SEM, which is based on the Enrichment Triad Model, is enrichment learning and teaching, which has roots in the ideas of a small but influential number of philosophers, theorists, and researchers such as Jean Piaget (1975), Jerome Bruner (1960, 1966), and John Dewey (1913, 1916). The work of these theorists, coupled with our own research and program development activities, has given rise to the concept we call enrichment learning and teaching. The best way to define this concept is in terms of the following four principles:

Figure 6. The Compactor



INDIVIDUAL EDUCATIONAL PROGRAMMING GUIDE
The Compactor

Prepared by: Joseph S. Renzulli
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.

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1. Each learner is unique; therefore, all learning experiences must be examined in ways that take into account the abilities, interests, and learning styles of the individual.
2. Learning is more effective when students enjoy what they are doing, therefore, learning experiences should be constructed and assessed with as much concern for enjoyment as for other goals.
3. Learning is more meaningful and enjoyable when content (i.e., knowledge) and process (i.e., thinking skills, methods of inquiry) are learned in the context of a real and present problem; therefore, attention should be given to opportunities to personalize student choice in problem selection, the relevance of the problem for individual students at the time the problem is being addressed, and authentic strategies for addressing the problem.
4. Some formal instruction may be used in enrichment learning and teaching, but a major goal of this approach to learning is to enhance knowledge and thinking skills, which are gained through formal instruction with applications of knowledge and skills that result from students' own construction of meaning (Renzulli, 1994, p. 204).

The ultimate goal of learning that is guided by these principles is to replace dependent and passive learning with independence and engaged learning. Although all but the most conservative educators will agree with these principles, much controversy exists about how these

(or similar) principles might be applied in everyday school situations. A danger also exists that these principles might be viewed as yet another idealized list of glittering generalities that cannot be manifested easily in schools that are entrenched in the deductive model of learning; developing a school program based on these principles is not an easy task. Over the years, however, we have achieved success by gaining faculty, administrative, and parental consensus on a small number of easy-to-understand concepts and related services and by providing resources and training related to each concept and service delivery procedure. Numerous research studies and field tests in schools with widely varying demographics have been conducted (Renzulli & Reis, 1994), and these are described in the following, as are studies that document that the SEM can be implemented in a wide variety of settings and used with various populations of students, including high-ability students with learning disabilities and high-ability students who underachieve in school.

Non-negotiables About Implementing Enrichment in the SEM

The many changes taking place in general education have resulted in some unusual reactions to the SEM that might best be described as the good news/bad news phenomenon. The good news is that many schools are expanding their conception of giftedness, and they are more willing than ever to extend a broader continuum of enrichment and differentiated learning services to larger proportions or even the entire school population. More good news also suggests that many schools are using enrichment services as a theme to provide these types of services for all students in the school. The bad news is that the motivation for these changes is often based on mistaken beliefs that we can adequately serve high-potential students without some forms of instructional grouping and that we don't need enrichment teachers, as classroom teachers can do all of this in the contexts of their classrooms and without the special training that is necessary to understand how to implement enrichment programming. Accordingly, we conclude this chapter with some non-negotiables about the SEM.

First, although we have advocated a larger talent pool than traditionally has been the practice in gifted education, and a talent pool that includes students who gain entrance on both test and non-test criteria (Renzulli, 1988), we firmly maintain that the concentration of services necessary for the development of high-level potentials cannot take place without targeting and documenting individual student abilities, interests, and learning styles. Targeting and documenting does not mean that we will simply play the same old game of classifying students as "gifted" or "not gifted," and let it go at that. Rather, targeting and documenting are part of an on going process that produces a comprehensive and always evolving Total Talent Portfolio about student abilities, interests, and learning styles. The most important thing to keep in mind about this approach is that all information should be used to make individual programming decisions about present and future activities and about ways we can enhance and build on documented strengths. Documented information (a) will enable us to recommend enrollment in advanced courses or special programs (e.g., summer programs, college courses, etc.) and (b) will provide direction in taking extraordinary steps to develop specific interests and resulting projects within topics or subject-matter areas of advanced learning potential.

Enrichment specialists must devote a majority of their time to working directly with targeted students, and this time should mainly be devoted to facilitating individual and small-group investigations (i.e., Type IIIs). Some of their time with talent pool students can be devoted

to stimulating interest in potential Type IIIs through advanced Type I experiences and advanced Type II training that focuses on learning research skills necessary to carry out investigations in various disciplines. To do this, we must encourage more classroom teachers to become involved in talent development through both enrichment opportunities and in curriculum modification and differentiation in their classrooms. We must also encourage more classroom teachers to participate in enrichment teams that work together to provide talent development opportunities for all students in the school, enabling the enrichment specialists to work with more-advanced students.

A second non-negotiable is that SEM programs must have specialized personnel to work directly with talent pool students, to teach advanced courses, and to coordinate enrichment services in cooperation with a schoolwide enrichment team. The old cliché, "Something that is the responsibility of everyone ends up being the responsibility of no one," has never been more applicable than when it comes to enrichment specialists. The demands made on regular classroom teachers, especially during these times of mainstreaming and heterogeneous grouping, leave precious little time to challenge our most-able learners and to accommodate interests that clearly are above and beyond the regular curriculum. In a study recently completed by researchers at the National Research Center on the Gifted and Talented (Westberg, 1999), it was found that in 84% of regular classroom activities, no differentiation was provided for identified high-ability students. Accordingly, time spent in enrichment programs with specialized teachers is even more important for high-potential students.

Related to this non-negotiable are the issues of teacher selection and training as well as the scheduling of special program teachers. Providing unusually high levels of challenge requires advanced training in the disciplines that one is teaching, in the application of process skills, and in the management and facilitation of individual and small-group investigations. It is these characteristics of enrichment specialists, rather than the mere grouping of students, that have resulted in achievement gains and high levels of creative productivity on the parts of special-program students.

Every profession is defined in part by its identifiable specializations, according to the tasks to be accomplished, but specialization means more than the acquisition of particular skills. It also means affiliation with others who share common goals; the promotion of one's field; participation in professional activities, organizations, and research; and contributions to the advancement of the field. It also means the kinds of continued study and growth that make a difference between a job and a career. Now, more than ever, it is essential to fight for the special-program positions that are falling prey to budget cuts and the "heterogenization" of education. All professionals in the field should work for the establishment of standards and specialized certification for enrichment specialists. They should also help parents organize a task force that will be ready at a moment's notice to call in the support of every parent (past as well as present) whose child has been served in a special program.

Research on the SEM

The SEM (Renzulli, 1977; Renzulli & Reis, 1985, 1997) has been widely implemented as an enrichment program used with academically gifted and talented students and a magnet theme school for all students using talent development experiences. Separate studies of the SEM have

demonstrated its effectiveness in schools with students of widely differing socioeconomic levels and varied program organization patterns (Olenchak, 1988; Olenchak & Renzulli, 1989), as summarized in Appendix A.

The SEM has been implemented in more than 2,500 schools across the country (Burns, 1998), and programs using this approach have been widely implemented internationally. The effectiveness of the model has been studied in more than 20 years of research and field testing about (a) the effectiveness of the model as perceived by key groups, such as principals (Cooper, 1983; Olenchak, 1988); (b) research related to student creative productivity (Burns, 1987; Delcourt, 1988; Gubbins, 1982; Newman, 1991; Reis, 1981; Starko, 1986); (c) research relating to personal and social development (Olenchak, 1991; Skaught, 1987); (d) the use of SEM with culturally diverse or special-needs populations (Baum, 1985, 1988; Baum, Renzulli, & Hébert, 1995; Emerick, 1988; Taylor, 1992); (e) research on student self-efficacy (Schack, 1986; Schack, Starko & Burns, 1991; Starko, 1986; Stednitz, 1985); (f) the use of SEM as a curricular framework (Karafelis, 1986; Reis & Fogarty, 2006; Reis, Gentry, & Park, 1995); (g) research relating to learning styles and curriculum compacting (Imbeau, 1991; Reis et al., 1993; Smith, 1976; Stewart, 1979); and (h) longitudinal research on the SEM (Delcourt, 1988; Hébert, 1993; Westberg, 1999). This research on the SEM suggests that the model is effective at serving high-ability students in a variety of educational settings and in schools serving diverse ethnic and socioeconomic populations. These studies also suggest that the pedagogy of the SEM can be applied to various content areas, resulting in higher achievement when implemented in a wide variety of settings and used with diverse populations of students, including high- ability students with learning disabilities and those who underachieve.

Specific studies that investigated achievement include a study on curriculum compacting that found that when teachers eliminated as much as 50% of the regular curriculum for gifted students, students who had their curriculum compacted scored as well or better in the out-of-level postachievement tests, using the Iowa Test of Basic Skills (1990). For example, students whose curriculum was eliminated in science scored significantly higher on science achievement tests than did the control group whose curriculum was not compacted. Students whose curriculum was compacted in mathematics scored significantly higher in on the math concepts Iowa Test than did control group students whose curriculum was not compacted in mathematics.

Another study used the SEM in reading (Reis et al., 2005), as described in Chapter Seven, to investigate the effects of an enrichment approach to reading on elementary school students' reading achievement and attitudes toward reading. Researchers found that when they eliminated five hours of regular grouped reading instruction and replaced it with short conferences and enriched reading based on interests, significant differences were found in reading fluency and achievement as well as attitudes for students using this enriched reading approach.

In another study (Baum et al., 1995), teachers guided 17 gifted, underachieving students (ages 8–13) in the completion of creative products based on their interests as part of the SEM. Positive gains were made by 82% of the students who were no longer underachieving in their school setting at the end of the intervention. Another study (Reis, Gentry, & Maxfield, 1998) investigated the effect of providing one type of gifted education pedagogy, enrichment clusters, to the entire population of two urban elementary schools. Enrichment clusters provided a

regularly scheduled weekly time for students to work with adult facilitators to complete a product or provide service in a shared interest area. Teaching practices of classroom teachers who participated as cluster facilitators were affected both in the enrichment clusters and in regular classrooms. More challenging content was integrated into 95% of the clusters through teaching specific and authentic methods, advanced thinking, and problem solving strategies. Starko (1986) found that students involved in SEM enrichment groups reported more than twice as many creative projects per student as those in a comparison group and that they showed greater diversity and sophistication in projects (please see Appendix A for a research summary of studies related to SEM and Renzulli Learning).

Summary

The SEM provides a detailed plan to develop talents and gifts and encourage creative productivity in students. Each school that has an SEM program has the flexibility to develop its own unique programs based on local resources, student demographics, and school dynamics, as well as faculty strengths and creativity. The idea is to create a repertoire of services that can be integrated in such a way to create a "rising tide lifts all ships" approach. The model includes a continuum of services, enrichment opportunities, and three distinct services: curriculum modification and differentiation, enrichment opportunities of various types, and opportunities for the development of individual portfolios, including interests, learning styles, product styles, and other information about student strengths. Not only has this model been successful in addressing the problem of high-potential students who have been under-challenged, but it also provides additional important learning paths for gifted and talented students who find success in more traditional learning environments. Each of these components is more fully described in subsequent chapters.

There may never have been a time when so much debate about what should be taught has existed in American schools. The current emphasis on testing, the standardization of curriculum, and the drive to increase achievement scores has produced major changes in education during the last two decades. Yet at the same time, our society continues to need to develop creativity in our students. As overpopulation, disease, pollution, and starvation increase both here and throughout the rest of the world, the need for creative solutions to these and other problems seems clear. The absence of opportunities to develop creativity in all young people, and especially in talented students, is troubling. In the SEM, students are encouraged to become responsible partners in their own education and to develop a passion and joy for learning. As students pursue creative enrichment opportunities, they learn to acquire communication skills and to enjoy creative challenges. The SEM provides the opportunity for students to develop their gifts and talents and to begin the process of lifelong learning, culminating, we hope, in creative, productive work of their own selection as adults.

References

Amabile, T. M. (1983). *The social psychology of creativity*. New York: Springer-Verlag.

Baum, S. M. (1985). *Learning disabled students with superior cognitive abilities: A validation study of descriptive behaviors.* Unpublished doctoral dissertation, University of Connecticut, Storrs.

Baum, S. M. (1988). An enrichment program for gifted learning disabled students. *Gifted Child Quarterly, 32*(1), 226–230. https://doi.org/10.1177/001698628803200108
Baum, S. M., Renzulli, J. S., & Hébert, T. P. (1995). Reversing underachievement: Creative productivity as a systematic intervention. *Gifted Child Quarterly, 39*(4), 224–235. https://doi.org/10.1177/001698629503900406
Bruner, J. S. (1960). *The process of education.* Cambridge, MA: Harvard University Press.
Bruner, J. S. (1966). *Toward a theory of instruction.* Cambridge, MA: Harvard University Press.
Burns, D. E. (1987). *The effectiveness of group training activities on students' creative productivity*. Unpublished doctoral dissertation, University of Connecticut, Storrs.
Burns, D. E. (1998). *SEM network directory*. University of Connecticut, Neag Center for Gifted Education and Talent Development.
Cooper, C. R. (1983). *Administrators' attitudes towards gifted programs based on enrichment Triad/Revolving Door Identification Model: Case studies in decision-making.* Unpublished doctoral dissertation, University of Connecticut, Storrs.
Delcourt, M. A. B. (1988). *Characteristics related to high levels of creative productive behavior in secondary school students: A multi-case study.* Unpublished doctoral dissertation, University of Connecticut, Storrs.
Dewey, J. (1913). *Interest and effort in education*. New York: Houghton Mifflin.
Dewey, J. (1916). *Democracy and education*. New York: Macmillan.
Dunn, R., Dunn, K., & Price, G. E. (1975). *Learning style inventory*. Lawrence, KS: Price Systems.
Emerick, L. J. (1988). *Academic underachievement among the gifted: Students' perceptions of factors that reverse the pattern.* Unpublished doctoral dissertation, University of Connecticut, Storrs.
Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.
Gubbins, E. J. (1982). *Revolving door identification model: Characteristics of talent pool students.* Unpublished doctoral dissertation, University of Connecticut, Storrs.
Hébert, T. P. (1993). Reflections at graduation: The long-term impact of elementary school experiences in creative productivity. *Roeper Review, 16*(1), 22–28. https://doi.org/10.1080/02783199309553529
Imbeau, M. B. (1991). *Teachers' attitudes toward curriculum compacting: A comparison of different inservice strategies.* Unpublished doctoral dissertation, University of Connecticut, Storrs.
Iowa Test of Basic Skills. (1990). *Form J*. Chicago: Riverside Publishing.
Karafelis, P. (1986). *The effects of the tri-art drama curriculum on the reading comprehension of students with varying levels of cognitive ability.* Unpublished doctoral dissertation, University of Connecticut, Storrs.
Kettle, K. E., Renzulli, J. S., & Rizza, M. G. (1998). Products of mind: Exploring student preferences for product development using My Way … An Expression Style Instrument. *Gifted Child Quarterly, 42*(1), 48–57. https://doi.org/10.1177/001698629804200106
Kirschenbaum, R. J. (1983). Let's cut out the cut-off score in the identification of the gifted. *Roeper Review, 5*(4), 6–10. https://doi.org/10.1080/02783198309552713
Kirschenbaum, R. J. & Siegle, D. (1993, April). *Predicting creative performance in an enrichment program.* Paper presented at the 6th Annual Conference of Association for the Education of Gifted Underachieving Students. Portland, OR.

Newman, J. L. (1991). *The effects of the talents unlimited model on students' creative productivity.* Unpublished doctoral dissertation, The University of Alabama, Tuscaloosa.

Olenchak, F. R. (1988). The schoolwide enrichment model in the elementary schools: A study of implementation stages and effects on educational excellence. In J. S. Renzulli (Ed.), *Technical report on research studies relating to the revolving door identification model* (2nd ed., pp. 201–247). University of Connecticut, Bureau of Educational Research.

Olenchak, F. R., & Renzulli, J. S. (1989). The effectiveness of the Schoolwide Enrichment Model on selected aspects of elementary school change. *Gifted Child Quarterly, 33*(1), 36–46. https://doi.org/10.1177/001698628903300106

Olenchak, F. R. (1991). Assessing program effects for gifted/learning disabled students. In R. Swassing & A. Robinson (Eds.), *NAGC 1991 research briefs* (pp. 86–89). Washington, DC: National Association for Gifted Students.

Piaget, J. (1975). *The development of thought: Equilibration of cognitive structures.* New York: Viking.

Reis, S. M. (1981). *An analysis of the productivity of gifted students participating in programs using the revolving door identification model.* Unpublished doctoral dissertation, University of Connecticut, Storrs.

Reis, S. M., Burns, D. E., & Renzulli, J. S. (1992). *Curriculum compacting: The complete guide to modifying the regular curriculum for high ability students*. Mansfield Center, CT: Creative Learning Press.

Reis, S. M., Eckert, R. D., Jacobs, J. K., Coyne, M. D., Richards, S. Briggs, C. J., … & Gubbins, E. J. (2005). *The schoolwide enrichment model-Reading framework.* University of Connecticut, The National Research Center on the Gifted and Talented.

Reis, S. M., & Fogarty, E. (2006). Savoring reading, schoolwide. *Educational Leadership, 64*(2), 32–36. https://www.ascd.org/el/articles/savoring-reading-schoolwide

Reis, S. M., Gentry, M., & Maxfield, L. R. (1998). The application of enrichment clusters to teachers' classroom practices. *Journal for Education of the Gifted, 21*(3), 310–324. https://doi.org/10.1177/016235329802100304

Reis, S. M., Gentry, M., & Park, S. (1995). *Extending the pedagogy of gifted education to all students* (Research Monograph 95118). University of Connecticut, The National Research Center on the Gifted and Talented.

Reis, S. M., & Renzulli, J. S. (1982). A research approach on the Revolving Door Identification Model: A case for the broadened conception of giftedness. *Phi Delta Kappan, 63*(9), 619–620. https://www.jstor.org/stable/20386477

Reis, S. M., Westberg, K. L., Kulikowich, J., Caillard, F., Hébert, T., Plucker, J., … & Smist, J. M. (1993). *Why not let high ability students start school in January? The curriculum compacting study* (Research Monograph 93106). University of Connecticut, The National Research Center on the Gifted and Talented.

Renzulli, J. S. (1976). The Enrichment Triad Model: A guide for developing defensible programs for the gifted and talented. *Gifted Child Quarterly, 20*(3), 303–326. https://doi.org/10.1177/001698627602000327

Renzulli, J. S. (1977). *The Enrichment Triad Model: A guide for developing defensible programs for the gifted and talented*. Mansfield Center, CT: Creative Learning Press.

Renzulli, J. S. (1978). What makes giftedness? Re-examining a definition. *Phi Delta Kappan, 60*(3), 180–184, 261. https://www.jstor.org/stable/20299281

Renzulli, J. S. (1982). What makes a problem real: Stalking the illusive meaning of qualitative differences in gifted education. *Gifted Child Quarterly, 26*(4), 147–156. https://doi.org/10.1177/001698628202600401

Renzulli, J. S. (1986). The Three-Ring conception of giftedness: A developmental model for creative productivity. In R. J. Sternberg & J. Davidson (Eds.), *Conceptions of giftedness* (pp. 53–92). New York: Cambridge University Press.

Renzulli, J. S. (1988). The Multiple Menu Model for developing differentiated curriculum for the gifted and talented. *Gifted Child Quarterly, 32*(3), 298–309. https://doi.org/10.1177/001698628803200302

Renzulli, J. S. (1994). *Schools for talent development: A comprehensive plan for total school improvement*. Mansfield Center, CT: Creative Learning Press.

Renzulli, J. S. (2005). The Three-Ring conception of giftedness: A developmental model for promoting creative productivity. In R. J. Sternberg & J. E. Davidson (Eds.), *Conceptions of giftedness* (2nd ed., pp. 246–279). Cambridge University Press. https://psycnet.apa.org/doi/10.1017/CBO9780511610455.015

Renzulli, J. S., & Reis, S. M. (1985). *The Schoolwide Enrichment Model: A comprehensive plan for educational excellence*. Mansfield Center, CT: Creative Learning Press.

Renzulli, J. S., & Reis, S. M. (1994). Research related to the Schoolwide Enrichment Triad Model. *Gifted Child Quarterly, 38*(1), 7–20. https://doi.org/10.1177/001698629403800102

Renzulli, J. S., & Reis, S. M. (1997). *The Schoolwide Enrichment Model: A how-to guide for educational excellence* (2nd ed.). Mansfield Center, CT: Creative Learning Press.

Renzulli, J. S., Reis, S. M., & Smith, L. H. (1981). *The revolving door identification model*. Mansfield Center, CT: Creative Learning Press.

Renzulli, J. S., & Smith, L. H. (1978). *The compactor*. Mansfield Center, CT: Creative Learning Press.

Renzulli, J. S., Smith, L. H., & Reis, S. M. (1982). Curriculum Compacting: An essential strategy for working with gifted students. *Elementary School Journal, (82)*3, 185–194. https://www.jstor.org/stable/1001569

Schack, G. D. (1986). *Creative productivity and self-efficacy in children.* Unpublished doctoral dissertation, University of Connecticut, Storrs.

Schack, G. D., Starko, A. J., & Burns, D. E. (1991). Self-efficacy and creative productivity: Three studies of above average ability children. *Journal of Research in Education, 1*(1), 44–52.

Skaught, B. J. (1987). *The social acceptability of talent pool students in an elementary school using the schoolwide enrichment model.* Unpublished doctoral dissertation, University of Connecticut, Storrs.

Smith, L. H. (1976). *Learning styles: Measurement and educational significance.* Unpublished doctoral dissertation, University of Connecticut, Storrs.

Starko, A. J. (1986). *The effects of the revolving door identification model on creative productivity and self-efficacy.* Unpublished doctoral dissertation, University of Connecticut, Storrs.

Stednitz, U. (1985). *The influence of educational enrichment on the self-efficacy in young children.* Unpublished doctoral dissertation, University of Connecticut, Storrs.

Sternberg, R. J. (1984). Toward a triarchic theory of human intelligence. *Behavioral and Brain Sciences, 7*(2), 269–287. https://psycnet.apa.org/doi/10.1017/S0140525X00044629

Sternberg, R. J. (1988). *The triarchic mind: A theory of human intelligence.* New York: Viking.
Stewart, E. (1979). *Learning styles of artistically talented high school students.* Unpublished doctoral dissertation, University of Connecticut, Storrs.
Taylor, L. A. (1992). *The effects of the secondary enrichment triad model and a career counseling component on the career development of vocational-technical school students.* Unpublished doctoral dissertation, University of Connecticut, Storrs.
Torrance, E. P. (1962). *Guiding creative talent*. Englewood Cliffs, NJ: Prentice-Hall.
Torrance, E. P. (1974). *Torrance tests of creative thinking: Norms-technical manual*. Bensenville, IL: Scholastic Testing Service.
Ward, V. S. (1960). Systematic intensification and extensification of the school curriculum. *Exceptional Children, 27*(2), 67–71, 77. https://doi.org/10.1177/001440296002700202
Westberg, K. L. (1999, Summer). What happens to young, creative producers? *NAGC: Creativity and Curriculum Divisions' Newsletter,* pp. 3, 13–16.

Appendix A

Student Creative Productivity

Author and Date	*Description of Study*	*Sample*	*Results or Findings*
Baum, 1988	An enrichment program for gifted learning-disabled students.	E *n*=7	The Type III independent study, when used as an intervention with high-ability, learning-disabled students, was associated with improvement in the students' behavior, specifically the ability to self-regulate time on task; improvement in self-esteem; and the development of specific instructional strategies to enhance the potential of high-potential, learning-disabled students.
Burns, 1987	The effects of group training activities on students' creative productivity.	E *n*=515	Students receiving process skill training were 64% more likely to initiate self-selected projects (Type IIIs) than the students who did not receive the training.
Delcourt, 1993	Creative productivity among secondary school students: Combining energy, interest, and imagination.	S *n*=18 (longitudinal)	Students who participated in Type III projects, both in and out of school, maintained interests and career aspirations in college. Supports the concept that adolescents and young adults can be producers of information, as well as consumers. Student giftedness, as manifested in performance and product development, may be predicted by high levels of creative and productive behaviors at an early age.
Hébert, 1993	Reflections at graduation: The long-term impact of elementary school experiences in creative productivity.	S *n*=9 (longitudinal)	Five major findings: Type III interests of students affect postsecondary plans; creative outlets are needed in high school; a decrease in creative Type III productivity occurs during the junior high experience; the Type III process serves as important training for later productivity; and nonintellectual characteristics with students remain consistent over time.
Newman, 1991	The effects of the Talents Unlimited Model on students' creative productivity.	E *n*=147	Students with training in the Talents Unlimited Model were more likely to complete independent investigations (Type IIIs) than the students who did not receive the training.

Author and Date	*Description of Study*	*Sample*	*Results or Findings*
Reis & Renzulli, 1982	An analysis of the productivity of gifted students participating in programs using the Revolving Door Identification Model.	E *n*=1,280	Students in the expanded talent pool (5%–20%) produced products of equal quality compared with students in the top 3% to 5% of the population.
Schack, 1986	Creative productivity and self-efficacy in children.	E, M *n*=294	Self-efficacy was a significant predictor of initiation of an independent investigation, and self-efficacy at the end of treatment was higher in students who participated in Type III projects.
Schack, 1986	The effects of The Revolving Door Identification Model on creative productivity and self-efficacy.	E *n*=103	Students who became involved with self-selected independent studies in SEM programs initiated their own creative products both inside and outside school more often than students who qualified for the program but did not receive services. Students in the enrichment group reported over twice as many creative projects per student (3.37) as the comparison group (0.50) and showed greater diversity and sophistication in projects. The number of creative products completed in school (Type IIIs) was a highly significant predictor of self-efficacy.
Westberg, 1999	A longitudinal study of students who participated in a program based on the Enrichment Triad model from 1981 to 1984.	E, S *n*=15 (longitudinal)	Students maintained interests over time and were still involved in creative productive work.

Note: P = Primary Grades, K–2; E = Elementary Grades, 3–5; M = Middle Grades, 6–8; S = Secondary Grades, 9–12; H+ = Post-high School; K = Kindergarten.

Special Population and Affective Issues

Author and Date	*Description of Study*	*Sample*	*Results or Findings*
Baum, 1985	Learning-disabled students with superior cognitive abilities: a validation study of descriptive behaviors.	E *n*=112	SEM recommended as one vehicle to meet the unique needs of gifted students with learning disabilities because of the emphasis on strengths, interests, and learning styles.
Baum, Renzulli, & Hébert, 1995	Students who underachieve.	E. M *n*=17	Reversal of underachievement through the use of MES Type III projects.
Emerick, 1988	Academic underachievement among the gifted: students' perceptions of factors relating to the reversal of academic underachievement patterns.	H+ *n*=10	Reversal of academic underachievement through use of various components of SEM including curriculum compacting, exposure to Type I experiences, opportunities to be involved in Type III studies, and an appropriate assessment of learning styles to provide a match between students and teachers. To reverse the academic underachievement in gifted students the following factors must be considered: out-of-school interests, parents, goals associated with academic performance, classroom instruction and curriculum, the teacher, and changes in the self.
Heal, 1989	Student perceptions of labeling the gifted: A comparative case study analysis.	E *n*=149	The SEM was associated with a reduction in the negative effects of labeling.
Olenchak, 1991	Assessing program effects for gifted and learning-disabled students.	P, E *n*=108	Supported use of SEM as a means of meeting educational needs of a wide variety of high ability students. SEM, when used as an intervention, was associated with improved attitudes toward learning among elementary, high-ability students with learning disabilities. Furthermore, the same students, who completed a high percentage of Type III projects, made positive gains with respect to self-concept.

Author and Date	*Description of Study*	*Sample*	*Results or Findings*
Reis, Schader, Milne, & Stephens, 2003	Music and minds: Using a talent development approach for young adults with Williams syndrome.	S *n*=16	One third of the participants had high levels of musical talent, and the use of participants' interests and advanced training in music was found to both enhance all participants' understanding of mathematics and to provide opportunities for the further development of their interests and abilities, especially their potential in music. The use of a talent-development approach focusing on strengths, interests, and style preferences was found to be successful for this group of young people with Williams syndrome.
Taylor, 1992	The effects of the Secondary Enrichment Triad Model on the career development of vocational-technical school students.	S *n*=60	Involvement in Type III studies substantially increased postsecondary education plans of students (from attending 2.6 years to attending 4.0 years).

Note: P = Primary Grades, K–2; E = Elementary Grades, 3–5; M = Middle Grades, 6–8; S = Secondary Grades, 9–12; H+ = Post-high School; K = Kindergarten.

SEM as Applied to Schools Change

Author and Date	*Description of Study*	*Sample*	*Results or Findings*
Cooper, 1983	Administrators' attitudes toward gifted programs based on the Enrichment Triad/Revolving Door Identification Model: Case studies in decision-making.	Eight districts *n*=32	Administrator perceptions regarding the model included greater staff participation in education of high-ability students, more positive staff attitudes toward the program, fewer concerns about identification, positive changes in how the guidance department worked with students, and more incentives for students to work toward higher goals. Administrators found SEM affected all students.
Olenchak, 1988	SEM in elementary schools: a study of implementation stages and effects on educational excellence.	P, E *n*=236, teacher *n*=1,698, student	The SEM contributed to improved teachers', parents', and administrators' attitudes toward education for high ability students.
Olenchak, 1990	School change through gifted education: Effects on elementary students' attitudes toward learning.	P, E *n*=1,935	Positive changes in student attitudes toward learning as well as toward gifted education and school in general.
Reis, Gentry, & Maxfield, 1998	The application of enrichment clusters to teachers' classroom practices.	E Two schools *n*=120, teachers	Teachers trained to use enrichment clusters as part of the enrichment program were able to transfer and implement the use of advanced content and methods in their regular classrooms. Methods used by teachers included advanced content and methods, advanced vocabulary, authentic tools of the disciplines, and advanced references and problem solving.

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Curriculum Modification and Learning and Product Styles

Author and Date	*Description of Study*	*Sample*	*Results or Findings*
Imbeau, 1991	Teachers' attitudes toward curriculum compacting with regard to the implementation of the procedure.	P, E, M, S *n*=166	Group membership (peer coaching) was a significant predictor of posttest teachers' attitudes. Comparisons of teachers' attitudes toward curriculum compacting indicate a need for additional research on variables that enhance and inhibit the use of curriculum compacting as a classroom strategy.
Kettle, Renzulli, & Rizza, 1998	Products of mind: exploring student preferences for product development using *My Way...an expression style instrument.*	E, M *n*=3532	Students' preferences for creating potential products were explored through the use of an expression-style inventory. Factor analytic procedures yielded the following 11 factors: computer, service, dramatization, artistic, audio/visual, written, commercial, oral, manipulative, musical, and vocal.
Reis, Westberg, Kulikowich, & Purcell, 1998	Curriculum compacting and achievement test scores: What does the research say?	K, E, M *n*=336	Using curriculum compacting to eliminate between 40% to 50% of curricula for students with demonstrated advanced content knowledge and superior ability resulted in no decline in achievement test scores.

Note: P = Primary Grades, K–2; E = Elementary Grades, 3–5; M = Middle Grades, 6–8; S = Secondary Grades, 9–12; H+ = Post-high School; K = Kindergarten.

Application of SEM to Curriculum and Content Areas

Author and Date	*Description of Study*	*Sample*	*Results or Findings*
Eleck, 2005	Implementing Renzulli Learning in enrichment programs and classrooms.	E, M *n*=200	Students in enrichment and regular classrooms used Renzulli Learning with minimal training. Almost 50% of students had ideas for completing products using Renzulli Learning, and 80% enjoyed using Renzulli Learning completely or very much. Each of the pilot teachers using the system assigned projects to students online.
Karafelis, 1986	The effects of the tri-art drama curriculum on the reading comprehension of students with varying levels of cognitive ability.	E, M *n*=80	Students receiving experimental treatment did equally well on achievement tests as the control group.
Reis et al., 2005	The Schoolwide Enrichment Model in Reading.	E, M *n*=1,500	Students who participated in an enriched reading program based on the SEM had significantly higher scores in reading fluency and reading comprehension than students in the control group. Students who participated in an enriched reading program based on SEM had significantly better attitudes toward reading than students in the control group.
Reis, Westberg, Kulikowich, & Purcell, 1998	Curriculum compacting and achievement test scores: What does the research say?	K, E, M *n*=336	Using curriculum compacting to eliminate between 40% to 50% of curricula for students with demonstrated advanced content knowledge and superior ability resulted in no decline in achievement test scores.

Note: P = Primary Grades, K–2; E = Elementary Grades, 3–5; M = Middle Grades, 6–8; S = Secondary Grades, 9–12; H+ = Post-high School; K = Kindergarten.