Angela M. Housand, Ph.D.,
Brian C. Housand, Ph.D., &
Joseph S. Renzulli, Ed.D.

Using the Schoolwide Enrichment Model

With Technology

A **Prufrock Press** Book

Using the Schoolwide Enrichment Model With Technology

Using the Schoolwide Enrichment Model With Technology

Angela M. Housand, Ph.D.,
Brian C. Housand, Ph.D., &
Joseph S. Renzulli, Ed.D.

Routledge
Taylor & Francis Group
NEW YORK AND LONDON

Library of Congress Cataloging-in-Publication Data

Names: Housand, Angela M., 1970- author. | Housand, Brian C., author. | Renzulli, Joseph S., author.
Title: Using the schoolwide enrichment model with technology / by Angela M. Housand, Ph.D., Brian C. Housand, Ph.D., and Joseph S. Renzulli, Ed.D.
Description: Waco, Texas : Prufrock Press, Inc., [2017] | Includes bibliographical references.
Identifiers: LCCN 2016032531 | ISBN 9781618215932 (pbk.)
Subjects: LCSH: Curriculum enrichment. | Education--Effect of technological innovations on. | Educational technology. | Critical thinking--Study and teaching.
Classification: LCC LB1570 .H685 2017 | DDC 375/.006--dc23
LC record available at https://lccn.loc.gov/2016032531

First published in 2017 by Prufrock.Press Inc.

Published in 2021 by Routledge
605 Third Avenue, New York, NY 10017
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

Routledge is an imprint of the Taylor & Francis Group, an informa business.

Cover design by Raquel Trevino and layout design by Allegra Denbo

ISBN: 9781032144429 (hbk)
ISBN: 9781618215932 (pbk)

DOI: 10.4324/9781003239468

Table of Contents

Part I: Getting Started

Chapter 1 The Schoolwide Enrichment Model (SEM) 3
Chapter 2 From the SEM to Using Technology 23
Chapter 3 Who Are Your Students? 39

Part II: Technology Enhancements for the Enrichment Triad Model

Chapter 4 Type I—Curiosity and Exposure 59
Chapter 5 Type I—Engaging Students 71
Chapter 6 Type I—Connecting to Student Understanding 95
Chapter 7 Type I—Student Experiences 117
Chapter 8 Type II—Technology Processes 129
Chapter 9 Type II—Technology Skills 141
Chapter 10 Type II—Processes and Skills in Action 161
Chapter 11 Type III—Investigations of Real Problems 209
Chapter 12 Type III—Student Initiative and Productivity 231

Part III: Putting the Pieces Together

Chapter 13 From the Enrichment Triad Model to the Classroom 241
Chapter 14 Casting a Future Plan 257

Appendix A Taxonomy of Type II Enrichment Process Skills 265
Appendix B SEM:*Tech* Templates 269

References 273
About the Authors 283

Taylor & Francis
Taylor & Francis Group
http://taylorandfrancis.com

PART I

Getting Started

DOI: 10.4324/9781003239468-1

CHAPTER 1

The Schoolwide Enrichment Model (SEM)

Introduction

This book is designed to provide teachers with specific strategies and resources for infusing technology into any and all aspects of the curriculum. The approaches discussed in the chapters that follow are based on a general model for talent development entitled The Schoolwide Enrichment Model (SEM; Renzulli & Reis, 2014). The SEM (Renzulli & Reis, 1985, 1997, 2014) is designed to challenge and meet the needs of high-potential, high-ability, and gifted students, while providing challenging learning experiences for *all* students. This is the primary difference between the SEM and other models in gifted education: The SEM advocates enriched learning opportunities for *all* students and advanced-level follow-up for students who show high levels of interest, ability, and motivation that may result from positive reactions to general enrichment experiences, the regular curriculum, or nonschool experiences. The three major goals of the SEM are to:

1. maintain and expand 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;
2. infuse into the general education program a broad range of activities for high-end learning that will challenge all students to perform at advanced levels, and allow teachers to determine which students should

DOI: 10.4324/9781003239468-2

be given extended opportunities, resources, and encouragement in particular areas where superior interest and performance are demonstrated; and

3. preserve and protect the positions of gifted education specialists and any other specialized personnel necessary for carrying out these goals.

The SEM Identifies Potential and Talent

Every learner has potential strengths that can be used as a foundation for learning. Within the SEM approach, potentially high-performing students are recognized and provided with advanced opportunities, resources, and encouragement based on their aptitudes, motivation, and creative behaviors. In addition to or in replacement of traditional test-based assessment, teachers and content-area specialists can observe students using technology tools, conducting research on the Internet, interacting with concepts, and creating products for authentic audiences in any subject or extracurricular area. This provides opportunities for performance-based assessment and allows educators to make instructional decisions about individuals and small groups accordingly. In a performance-based identification system, classroom observations play an equal part in selecting students for advanced services. Utilizing a performance-based approach is critical in locations where students experience disadvantages that may limit their achievement on standardized tests (Cooper, Baum, & Neu, 2004). By recognizing and developing the unique strengths of children, students can develop a sense of self-efficacy that promotes a growth mindset (Dweck, 2006), which often carries over to higher success rates in other areas.

DID YOU KNOW?

Delcourt (2008) found that students who participated in specific content-area lessons designed to promote engagement and enhance inquiry skills, like the SEM approach, were more successful in advanced follow-up pursuits. These activities focused on recognizing potential and aptitude in a specific area rather than measuring the amount of training already acquired, and allowed teachers to rate student performance using criteria such as "displays complexity of ideas," "uses materials effectively," "recognizes patterns in the content," and "utilizes specialized vocabulary."

In the SEM, a talent pool of approximately 10%–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 (e.g., self-nomination, parent nomination, etc.). High achievement test scores or high IQ scores automatically include a student in the talent pool. This enables educators to focus the majority of their talent search efforts on finding those students who are underachieving in their academic schoolwork.

The structure of the SEM, outlined in Figure 1, has three service delivery components: The Total Talent Portfolio, Curriculum Modification and Differentiation, and Enrichment Pedagogy. These three services are delivered through the regular curriculum, a continuum of special services, and a series of enrichment clusters. First, a comprehensive strengths and interest assessment portfolio, The Total Talent Portfolio, is created for each student to inform the kinds of learning opportunities that students will be encouraged to pursue. With interests and learning style preferences tracked in equal measure to cognitive abilities, a strong foundation for effective learning and creative productivity is identified for each student. A second service delivery component is curriculum compacting. This differentiation strategy identifies the parts of the regular curriculum that talent pool students have already mastered and then eliminates or streamlines the curriculum, enabling these students to avoid repetition of previously mastered work. The curriculum compacting strategy guarantees mastery while simultaneously finding time for more appropriately challenging activities (Reis, Burns, & Renzulli, 1992; Reis, Renzulli, & Burns, 2016; Renzulli, Smith, & Reis, 1981). Once students have been identified for talent development and arrangements have been made that free up time for students to work on something different, advanced learning opportunities can begin.

These opportunities are organized around the Enrichment Triad Model, which is the curricular foundation at the heart of the SEM and the primary focus of this book, *Using the Schoolwide Enrichment Model With Technology* (SEM:*Tech*). The Enrichment Triad Model provides the framework for teaching and learning within the broader components of the SEM and is comprised of three indivisible parts called Type I, Type II, and Type III. These three types of experiences function interdependently to create learning that engages students using their interests and passions to drive instruction.

This chapter discusses the theory and practices of the SEM, which has been used in schools for decades and is the basis for *Using the Schoolwide Enrichment Model With Technology* (SEM:*Tech*).

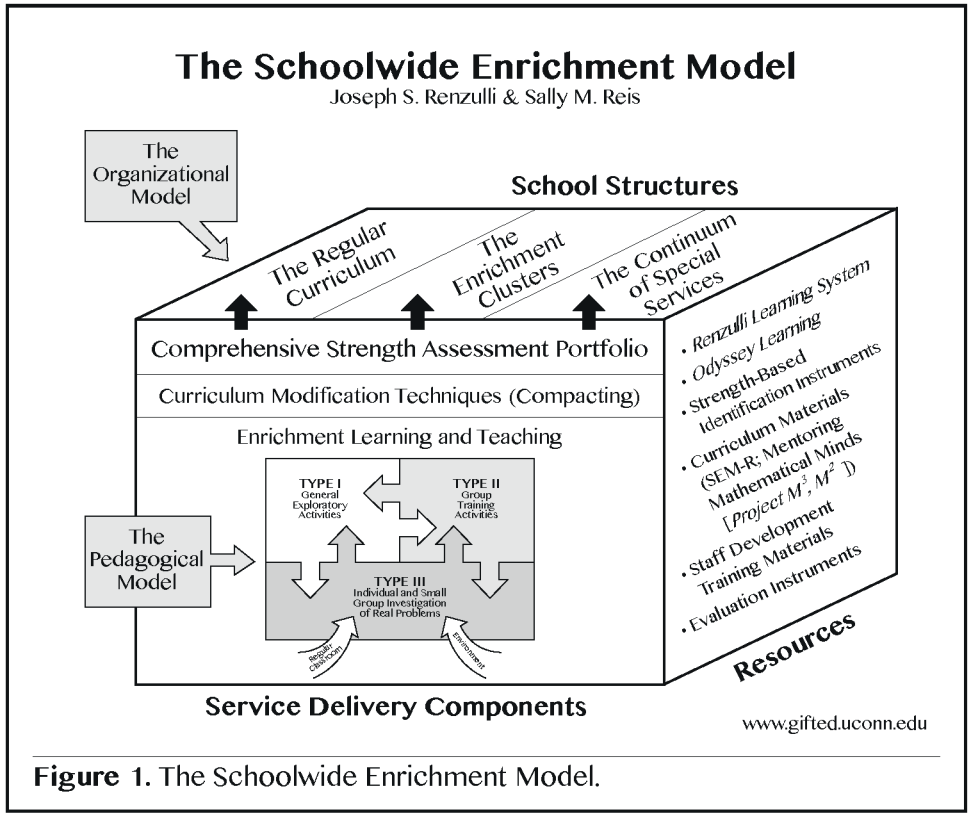

Figure 1. The Schoolwide Enrichment Model.

The Total Talent Portfolio

In the SEM, teachers help students better understand three dimensions of their learning: their abilities, interests, and learning styles. This information, focusing on their strengths rather than deficits, is compiled into a management form called the Total Talent Portfolio. The portfolio can be used to make decisions about talent development opportunities in general education classes, enrichment clusters, and in the continuum of special services. The major purposes of the Total Talent Portfolio are to:

1. collect information about students' strengths on a regular basis;
2. *classify* this information into the general categories of abilities, interests, and learning styles;
3. periodically *review and analyze* the information in order to make decisions about providing opportunities for enrichment experiences in the general education classroom, the enrichment clusters, and the continuum of special services; and

4. use this information to make decisions about acceleration and enrichment in school and in later educational, personal, and career decisions.

This expanded approach to identifying talent potentials is essential if we are to make genuine efforts to include a broader, more diverse group of students in enrichment programs. This approach is also consistent with the more flexible conception of *developing* gifts and talents that has been a cornerstone of the SEM, addressing concerns for promoting more equity in special programs.

Curriculum Modification and Differentiation Techniques

The second service delivery component of the SEM is a series of curriculum modification techniques that: (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. Essentially, these curriculum modification techniques help to ensure that all students' needs are being met within instructional settings. The procedures that are used to carry out curriculum modification include curriculum differentiation strategies, such as curriculum compacting, and increased use of greater depth into regular curricular material (Reis et al., 1993; Renzulli, 1994).

Curriculum compacting, for example, is an instructional differentiation technique that allows students to skip or be accelerated through content that has already been mastered. The process allows teachers to make appropriate curricular adjustments for students in any curricular area and at any grade level, through (a) defining the goals and outcomes of a particular unit or segment of instruction, (b) determining and documenting which students have already mastered most or all of a specified set of learning outcomes, and (c) providing replacement strategies for material already mastered through the use of instructional options that enable a more challenging and productive use of the students' time. An example of how compacting is used is best represented in the form, The Compactor, which serves as both an organizational and record-keeping tool (see Figure 2). Curriculum compacting provides a unique opportunity for teachers. Instead of simply replacing compacted regular curriculum work with more advanced material that is solely determined by the teacher, students' interests can and should be considered. If, for example, a student loves designing video games or smartphone apps, that option may be used to replace material that has been

Individual Education Program Guide The Compactor		
Student Name(s):	Grade:	School:
Participating Teachers:		
Name it.	**Prove it.**	**Change it.**
Curriculum Area Name or insert the subject area, unit or chapter, or learning standards that are the focus for compacting.	**Assessment** List the assessment tools and related data that indicate student strengths or were used for preassessment, the results of the preassesment data, and learning standards that have not yet been mastered. Identify pertinent student interests that emerged from inventories or interviews.	**Enrichment/Acceleration Plans** Briefly describe the enrichment or acceleration tasks that will be substituted for the compacted curriculum, and any strategies used to ensure student mastery of learning standards and objectives that have not been met through enrichment and acceleration. Explain which strategies will be used to support or coach student learning at more advanced levels.

Figure 2. The Compactor.

compacted from the regular curriculum. With curriculum compacting, we can ensure that the challenge level of the material being substituted is sufficiently rigorous. This helps us ensure that gifted students understand the nature of effort and challenge.

Enrichment Learning and Teaching

The third service delivery component of the SEM, 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 (1976), Jerome Bruner (1960, 1966), and John Dewey (1913, 1916). The work of these theorists, coupled with research and program development activities, has given rise to the concept of enrichment learning and teaching. The best way to define this concept is in terms of the following four principles:

1. Each learner is unique, and 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, and 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 within the context of a real and present problem; and 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 skill acquisition that is gained through formal instruction with applications of knowledge and skills that result from students' own construction of meaning (Renzulli, 1994).

The ultimate goal of learning guided by these principles is to replace dependent and passive learning with independent 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. Truly, a danger exists that principles and theories developed in the ivory towers of academe often do not translate into real classroom settings, but the SEM and the Enrichment Triad Model were not only developed in classrooms, but they have been implemented in thousands of schools across the county and around the world. We do not present an idealized list of glittering generalities, but rather concrete strategies and processes that can and will enrich the lives of students in *any* school setting. Developing a school program based on these principles is not necessarily an easy task, but with the clear and easily understandable structures within the Enrichment Triad Model and subsequently the SEM, the implementation becomes accessible for any school willing to take the time to make an even better learning environment for their students. Example after example demonstrate how schools 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 on the Enrichment Triad and SEM processes and service delivery procedures. Additionally, numerous research studies and field tests have shown that the SEM can be implemented in a wide variety of settings with various populations of students, including high-ability students with learning disabilities and high-ability students who underachieve in school (Renzulli & Reis, 1994).

School Structures of the SEM

There are several school structures that, when in place, support the implementation of the Schoolwide Enrichment Model. These structures work in harmony to ensure students' experiences are connected to life that occurs beyond the school walls while still providing rich, meaningful, and appropriately challenging learning opportunities.

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 through the differentiation of the challenge level of required material using curriculum compacting, and through enrichment teaching and learning like that of the Enrichment Triad Model (Renzulli, 1977). The goal of the SEM is to influence rather than replace the regular curriculum, but the application of certain SEM components and related staff development activities can substantially alter 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. Typically, enrichment clusters occur at a specific time each week for an entire marking period (trimester, semester, quarter, etc.). Using information gathered via interest inventories, themes are identified across students' interests. Then, adults from the faculty, staff, parents, and community are recruited to facilitate enrichment clusters based on the identified interests, such as video game design, robotics, LEGO construction, vlogging, and other areas. After a little training, facilitators develop their enrichment clusters and students are provided with the opportunity to select their top three choices for the clusters. When scheduling is complete, students are placed into their first, or in some cases, second choice. Like extracurricular activities and programs such as FIRST LEGO League, Makerspace, or Future Problem Solving Program, 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. Enrichment clusters promote real-world problem solving, focusing on the belief 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 various characteristics of differentiated programming, including the use of major disciplines, interdisciplinary themes, or cross-disciplinary topics (e.g., a theatrical/film production group that includes actors, writers, technical specialists, 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. Cluster facilitators do not prepare a detailed set of lesson plans or unit plans in advance; 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., filmmaking, computer programming, hardware engineering, etc.) 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 on an intended audience?

Enrichment clusters incorporate the use of advanced content by providing students with information about particular fields of knowledge and requiring students to use the methods and conventions of the field. 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 component of the SEM that can stimulate interests and develop talent in the entire school population. They can also serve as staff development opportunities as they provide teachers with 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, enrichment clusters promote a spillover effect by encouraging teachers to become better talent scouts and talent developers, and to apply enrichment techniques to general education classroom situations.

The Continuum of Special Services

A broad range of special services is the third school structure targeted by the Schoolwide Enrichment Model. 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 academically or intellectually talented students who are capable of working at the highest levels. These services, which cannot ordinarily be provided in enrichment clusters or the regular curriculum, typically include individual or small-group consultations; acceleration; direct assistance in facilitating advanced-level work; arranging for mentorships; and making other types of connections between students, their families, and the persons, resources, and agencies that exist beyond the school setting.

Direct assistance also involves setting up and promoting student, faculty, and parental involvement in special programs such as Future Problem Solving, Science Olympiad, Destination Imagination, National STEM Video Game Challenge, FIRST LEGO League, Makerspace, and other state and national competitions in robotics, mathematics, art, and history. 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 Schoolwide Enrichment teaching specialist or an enrichment team of teachers and parents who work together to provide options for advanced learning.

The Enrichment Triad Model

The kinds of learning that are addressed in a schoolwide enrichment approach to school improvement are based on a learning theory called the Enrichment Triad Model. This plan for enrichment learning and teaching is designed to encourage creative productivity on the part of young people by: (1) exposing them to various topics, areas of interest, and fields of study; (2) teaching them how to integrate advanced content, thinking skills, and investigative and creative problem solving methodology to self-selected areas of interest; and (3) providing them with the opportunities, resources, and encouragement to apply these skills to self-selected problems and areas of interest. Accordingly, three types of enrichment are included in the Enrichment Triad Model (see Figure 3).

The Triad Model is based on the ways in which people learn in a natural environment rather than the artificially structured environment that characterizes most classroom learning conditions. External stimulation, internal curiosity, necessity, or combinations of these three starting points cause people to develop an interest in a topic, problem, or area of study. Children are, by nature, curious, problem-solving beings, but in order for them to act upon a problem or interest with some degree of commitment and enthusiasm, the interest must be a sincere one in which they see a personal reason for taking action. Essentially, the Enrichment Triad Model was developed to motivate and engage students by exposing them to various topics and areas of interest, offering instruction in thinking skills, creative problem solving, and investigative methodology, and providing them with the opportunities, resources, and encouragement to *apply* these content and process skills to selected areas of interest.

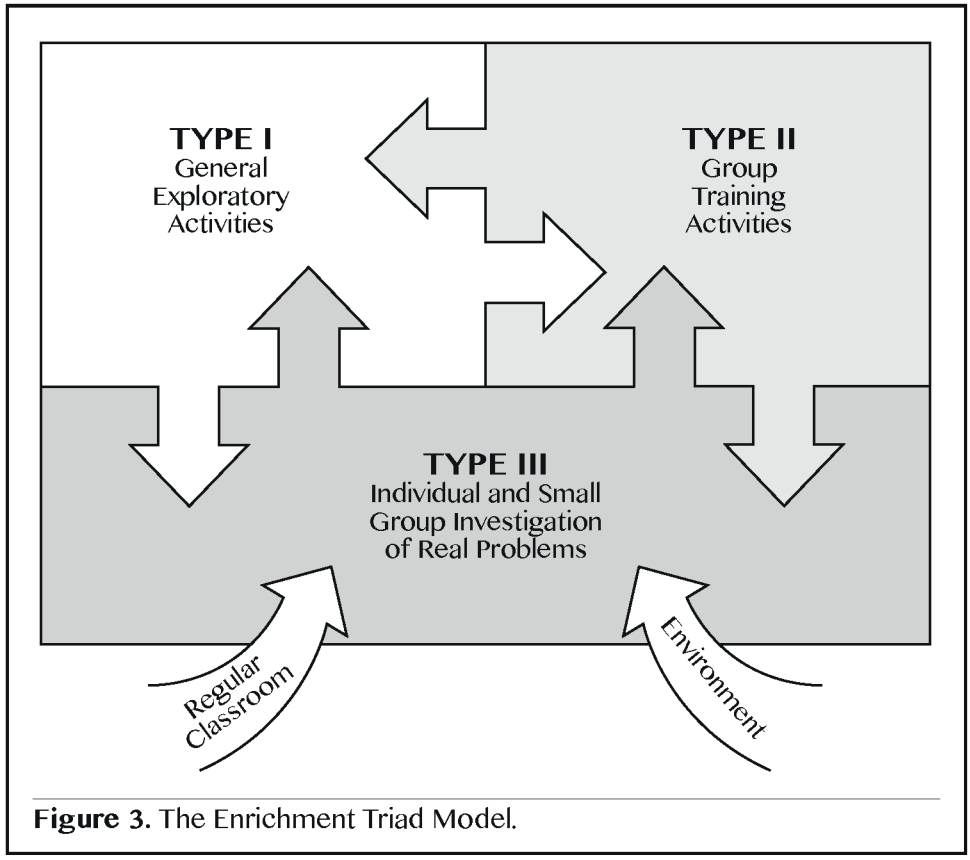

Figure 3. The Enrichment Triad Model.

The Enrichment Triad Model is designed to promote the *interaction* between and among the three types of enrichment depicted in Figure 3. The arrows in Figure 3 are as important as the individual cells because they give the model dynamic properties that cannot be achieved if the three types of enrichment are pursued independently or sequentially. A Type I exposure experience may, for example, have value in and of itself, but it achieves maximum payoff if it leads to Type II or III experiences for one or more students. And the backward arrows in Figure 3 are intended to convey paths through which the Type III productions of some students can serve as both Type I and Type II training for other students. In other words, these two types of general enrichment serve to fulfill both awareness and instructional purposes, and they produce maximum payoff when they also stimulate potential new interests on the parts of other students. For example, in one school, a group of fourth-grade students designed an online learning module to make advanced learning content accessible to younger learners.

The Schoolwide Enrichment Model is rich with opportunities to identify students who might not otherwise be recognized for enriched learning

experiences. The SEM is an excellent means to provide gifted students with rich and challenging learning, *and* it serves the needs of *all* students, particularly in the Type I and Type II learning within the Enrichment Triad Model. Types I and II Enrichment should be provided to larger groups of students than those formally identified as gifted. In some cases, this enrichment can be provided to all students and in other cases, it might be for targeted groups (e.g., advanced math groups, students with a special interest in coding). The reason for this change is because formal identification obviously helps us select students with high cognitive and/or achievement levels; however, we may miss students who have great potentials for higher level performance because of high interest and motivation, task commitment, and creativity—traits that are frequently overlooked in formal test-based identification procedures for gifted programs. This change is especially important if we want to examine the potentials of underachieving students, twice-exceptional students, low-income students, English language learners, and minority group students who typically do not do as well on standardized tests as middle class students. In this regard, it is a good idea to view Types I and II Enrichment as *identification situations*[1] that may lead to Type III experiences, which are the most advanced type of enrichment in the model.

The Enrichment Triad Model is the pedagogical core for the organizational structure of the Schoolwide Enrichment Model. The Triad has also been used in a variety of gifted programs, regular classroom curriculum enrichment approaches, and as charter and magnet school themes. The Triad has been adapted and adopted in diverse suburban, rural, and urban schools throughout the country, and it is widely used in schools around the world.

Type I Enrichment: General Exploratory Experiences

Type I Enrichment is designed to expose students to a wide variety of disciplines, topics, occupations, hobbies, persons, places, and events that would not ordinarily be covered in the regular curriculum. In schools using this model, an enrichment team of parents, teachers, and students often organizes and plans Type I experiences by contacting guest speakers, previewing films, or arranging mini-courses, demonstrations, or performances. Type I experiences are designed to motivate students to such an extent that they will act on their interests in creative and productive ways or seek out more information to satisfy their curiosity. The major purpose of Type I Enrichment is to include, within the overall school program, selected experiences that are purposefully developed to be

1 This concept has gained a good deal of popularity in recent years under the designation of "performance based assessment."

motivational. This type of enrichment exposes students to a wide variety of disciplines, topics, ideas, and concepts in a way that allows for connections across domains and to the world that exists beyond the school walls.

Type I Enrichment experiences can be based on regular curricular topics, innovative outgrowths of prescribed topics, or stand-alone topics in which teachers believe students would have an interest. But in order to qualify as a bona fide Type I experience, any and all planned activities in this category must be designed to stimulate new or present interests that may lead to more intensive follow-up on the parts of individuals or small groups of students. In Type I experiences, students are aware that the activity is an *invitation* to various kinds and levels of follow-up. The most successful Type I experiences are dynamic in nature, include some hands-on activities rather than a "straight lecture" approach, and demonstrate investigative and creative opportunities in the topic area. A systematic debriefing of the experience will enable students to envision further involvement and the ways that follow-up might be pursued.

An experience is clearly not a Type I if every student is required to follow up on an activity in the same or similar way. Required follow-up is a regular curricular practice, and although prescribed follow-up certainly has a genuine role in general education, it almost always fails to capitalize on differences in students' interests and learning styles. To make Type I experiences exciting to students, guest speakers, for example, should be selected for both their expertise and passion about a particular area *and* their ability to energize and capture the imagination of students even when presenting via digital means. Guest speakers or any Type I experience has to help students explore the realms and ranges of opportunity for further involvement that are available, while still being developmentally appropriate for their age or intellectual capacity.

It is important to incorporate Type I activities into the regular classroom curriculum because this helps connect these activities to classroom instruction, which highlights the importance of learning within the Type I experience. Following any Type I activity, an assessment of the levels of interest of all students can be conducted, and advanced Type I activities that pursue the material in greater depth might be planned for highly interested students. This helps support the implementation of interest-based learning opportunities like special groupings for Internet research or even field trips. This ensures that opportunities to go deeper are provided for all students when appropriate, not just intellectually advanced learners.

The Type I dimension of the Enrichment Triad Model can be an extremely exciting aspect of overall schooling because it creates a legitimate slot within the

curriculum for bringing the vast world of knowledge and ideas that are above and beyond the regular curriculum right into the school setting. It helps students connect what they are learning to what happens in the world outside the school and, as a relatively easy-to-implement component of the model, it is an excellent vehicle for getting started on a path to enriched learning for the entire school.

Type II Enrichment: Group Training Activities

Most educators agree about the need to blend into the curriculum more training in the development of higher order thinking skills. Type II Enrichment is a systematic approach for organizing process skills, specifically developing both thinking and feeling processes. Some Type II Enrichment is general, consisting of training in areas such as creative thinking and problem solving, learning how to learn skills such as classifying and analyzing data, and advanced research, reference, and communication skills. And some Type II training is very specific because it focuses on work a student is doing in a particular discipline or on a specific project. Type II training is usually carried out both in classrooms and in enrichment programs, and includes the development of skills outlined in Figure 4.

Typically, implementation of Type II instruction cannot be planned in advance because it is designed to be responsive to students' need for information as they engage in advanced learning in an interest area. When we refer to these strategies, we use the term *process skills*, and include examples of specific skills within each of the six general categories listed in Figure 4.

In general, Type II training provides students with various learning opportunities designed to improve their independent learning skills as well as the quality of their personal assignments, projects, and research. Type II enrichment also includes a broad range of affective training activities designed to improve social and emotional development, develop interpersonal and intrapersonal skills, and to promote greater degrees of cooperation and mutual respect among students. By placing this instruction within the framework of the regular curriculum, enrichment clusters, and any other special groupings of students, teachers can offer these valuable training activities without the risk of having the training viewed as an end in and of itself. This category of enrichment has generally been well received by students because it usually involves more hands-on activities and students can begin to see the relevance of these skills for projects that they may want to pursue.

Developing a Type II library of resources should be a major responsibility of the Schoolwide Enrichment Team, but the entire faculty should always be on the

Taxonomy of Cognitive and Affective Processes (The Type II Matrix)

I. Cognitive Thinking Skills
   - A. Creative thinking skills
   - B. Creative problem solving and decision making
   - C. Critical and logical thinking

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

III. Learning How to Learn Skills
   - A. Listening, observing, and perceiving
   - B. Reading, note taking, and outlining
   - C. Interviewing and surveying
   - D. Analyzing and organizing data

IV. Using Advanced Research Skills and Reference Materials
   - A. Preparing for research and investigative projects
   - B. Library and electronic references
   - C. Finding and using community resources

V. Written, Oral, and Visual Communication Skills
   - A. Written communication skills
   - B. Oral communication skills
   - C. Visual communication skills
   - D. The acquisition and appropriate application of digital literacy skills and just-in-time knowledge

VI. Metacognitive Technology Skills
   - A. Identify trustworthy and useful information
   - B. Selectively manage overabundant information
   - C. Organize, classify, and evaluate information
   - D. Assess web-based information
   - E. Use relevant information to advance the quality of one's work
   - F. Communicate information effectively

Figure 4. Type II Matrix (Renzulli, 2001).

lookout for materials and resources that they believe would be worthwhile additions to a broad and comprehensive library of source material. Type II resources go beyond a series of material sources. Do not forget that teachers who have become proficient in any set of process skills can share their expertise with other members of the faculty. The material selection process and development of process skills by teachers should be considered a long-term and ongoing undertaking. As materials are collected and teachers identified, it is important to classify the resources for easy retrieval. For example, it is much easier to go to a database where materials are catalogued and listed by grade-level appropriateness than it is to send out an e-mail every time you have a need. For the most part, all of the process skills that are part of the Type II Matrix can be introduced in the early grades, but they will need reinforcement and practice at more advanced levels as students progress through the grades. Do not hesitate to find out which materials and resources are working well using teacher and student feedback. This allows the resource library to be curated over time as effective materials and resources are maintained for Type II training and replacements are made for those materials that are not doing the job well.

Type III: Individual and Small-Group Investigations of Real Problems

Works of theorists such as Jean Piaget (1976), Jerome Bruner (1960, 1973), Leta Hollingworth (1926), and John Dewey (1910) provided part of the rationale for the original Enrichment Triad Model (Renzulli, 1976), but the ways that people learn in the outside-of-school world were the impetus for the Type III in the Enrichment Triad Model. Type III Enrichment is based on the ways in which people learn in a natural environment, rather than the artificially structured classroom and prescribed curriculum environments that characterize most school learning situations. Type III Enrichment incorporates investigative activities and the development of creative products in which students assume roles such as firsthand investigator, writer, artist, blogger, app developer, or game designer—the roles of practicing professionals. Although students pursue these kinds of involvement at a more junior level than adult professionals, the overriding purpose of Type III Enrichment is to create situations in which young people are thinking and feeling like practicing professionals and doing what practicing professionals do, even if at a less sophisticated level than adult researchers, writers, or entrepreneurs. Bona fide Type III experiences incorporate the following four characteristics of what makes a problem real (Renzulli, 1982):

1. Personalization of interest
2. Use of authentic methodology

3. No existing solution or "right" answer
4. Designed to have an impact on an audience other than or in addition to the teacher

Type III Enrichment is the vehicle through which everything from basic skills to advanced content and process skills blends together into student-developed products and services. This kind of learning represents a synthesis and an application of content, process, and personal involvement. The student's role is transformed from one of lesson-learner to firsthand inquirer, and the role of the teacher changes from an instructor and disseminator of knowledge to a combination of coach, resource procurer, mentor, and "guide-on-the-side."

A few examples of Type III Enrichment projects. The best way to understand what Type III Enrichment is all about is to look at a few examples that point out roles that teachers, students, and even parents play in the Type III process.

- A multilingual girl whose first language is Spanish felt it was important that students learn Spanish just as she had learned English. She conducted research on the Internet to determine the best way to learn a language. She then created an instructional blog on Blogspot [now called Blogger], which she shared on the Internet.
- After a curricular unit on Greek mythology in their gifted pull-out program, a group of fourth-grade students used GoAnimate to tell the stories of Greek gods and goddesses through animation in a K–2 friendly version. These videos were shared with teachers and younger students in their school.
- A group of third-grade students produced, created, and acted in an original film about perspective taking. The film was screened by the school community and later entered into a highly competitive film festival.
- A group of third graders interested in electronics and computer hardware used a Makey Makey (http://www.makeymakey.com) device to create an *Operation* board game for their class to use as a review for a unit on human anatomy. Players had to correctly identify the names of bones and successfully remove them from the game board that they designed.
- A group of elementary students wanted to learn to design their own apps and investigated the use of Appy Pie (http://www.appypie.com). The students partnered with local businesses to design mobile apps.
- Middle school students fascinated by the film industry used the Internet to research tax incentives provided by the state of North Carolina for

film production. The students created a series of public service announcements advocating for the continued support of the incentives to benefit the local economy. The public service announcements were posted on YouTube.

- In a gifted elementary class, students felt that people did not understand them and their giftedness. They then examined the characteristics of giftedness and created a conception of what it means to be gifted, based on the extant knowledge on giftedness and their own experiences. The students utilized photography and personal narratives to capture the essence of being gifted. Student photographs were displayed at a local gallery as part of an art exhibit.

Each Type III topic and product idea is almost inevitably germinated by an enrichment experience about something that happens to trigger the interest, either in or out of school. Many excellent resources are available to help students consider their interests and the potential Type III Enrichment projects they might like to pursue. Thanks to the Internet, young students in almost any part of the world can have access to a wealth of resources that were previously available to only a very small group of scholars and adults. In excellent Type III studies, students select both the topics and the products they wish to pursue. And in a certain sense, the teacher builds the curriculum around the child. Rather than define each product and determine the content and outcomes in advance as is typically done with prescribed curriculum, teachers help guide and facilitate the learning process of individuals and small groups. Teachers provide support and guidance for planning, organization, decision making, resource procurement, audience finding, and editorial assistance to bring product quality to its highest level. The experience becomes a dynamic learning environment where a student's gifts and talents emerge in creative and investigative ways, but the student (not the teacher) is in charge of his or her own learning. Each student's unique blend of interests is developed and celebrated.

DID YOU KNOW?

Follow-up studies with numerous young adults who participated in Triad-based programs (Brigandi, 2015; Delcourt, 1988, 1994; Hébert, 1993; Schack, 1986; Schack, Starko, & Burns, 1991; Starko, 1988; Westberg, 2010) have almost always revealed that one or more of their Type III experiences have been determining factors in making decisions about college majors and career choices. And many respondents to follow-up inquiries point out how their own professional contributions can be traced back to work carried out in Triad programs.

The *most important thing* students have "taken away" from their Type III Enrichment projects is a greater interest in and expertise for examining a topic of their own choosing in a rigorous and highly professional way. They have also developed a set of advanced-level thinking skills and a creative and investigative mindset that is transferable to a much broader range of competencies essential for future work and careers that place a premium on creative productivity. These skills include increased self-efficacy, which is a belief in themselves that they can do something that is bigger, more robust, and more challenging than what they have previously done in school. They have developed important executive function skills, such as organization and time management, self-regulation, task commitment, goal orientation, a strong work ethic, the ability to work cooperatively with others, and the communication skills that allow them to share their work with target audiences. Most importantly, however, they experience learning as a process that is joyful and worthy of their time.

CHAPTER 2

From the SEM to Using Technology

The Purpose of Education

> The first purpose of gifted education is to provide young people with maximum opportunities for self-fulfillment through the development and expression of one or a combination of performance areas where superior potential may be present. The second purpose is to increase society's reservoir of persons who will help to solve the problems of contemporary civilization by becoming producers of knowledge and art rather than mere consumers of existing information (Renzulli & Reis, 2014; p. 16–17).

Think for a moment about how you plan your instruction. What is the first thing you do? Have you been told that it is important to "start with the end in mind"? Most educators conceive the outcomes of learning as students meeting a set of standards. This likely explains why almost every educator we talk to starts his or her planning with the standards. Educators select several standards and then proceed to find a lesson that meets those standards or they design their own lesson around those standards. Either way, the lesson is *about the standards*, and when instruction is designed around a set of standards, the outcome is didactic instruction. This kind of instruction shifts students' relationship to learning processes. In didactic instruction, the standards are imposed on the student rather

DOI: 10.4324/9781003239468-3