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A Practical Model for Designing Individual Educational Programs (IEPs) for Gifted and Talented Students

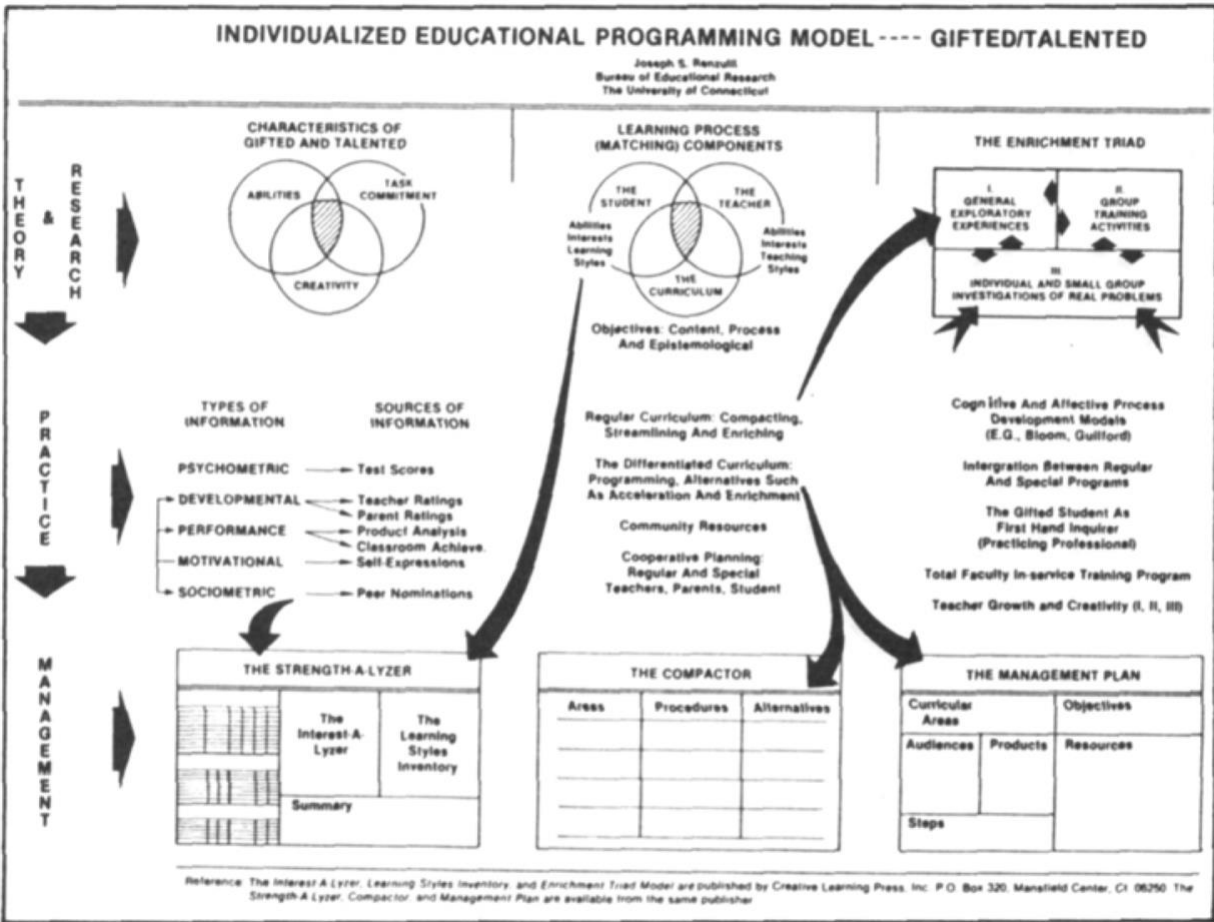
by Joseph S. Renzulli and Linda H. Smith

The major goals of the IEP model described in this article are twofold. First, we have attempted to provide teachers and administrators with a practical approach for individualization and with the *software* and step-by-step procedures that are necessary for implementing the model. Our second goal is somewhat more abstract but nevertheless equally important. This goal is to provide a valid rationale for special programming that is based on the best knowledge available concerning the characteristics of gifted and creative individuals.

The chart represents several components of the overall IEP model and the ways in which they are interrelated. The top row of the chart deals with three supporting models that are derived from research studies and theories of learning and instruction. The first column focuses on characteristics of gifted and talented students and it is considered to be the keystone of the IEP approach. The second column deals with a learning process model that is based upon the concept of matching students to learning environments. The third column is an enrichment model that attempts to integrate regular curricular experiences with those experiences that are mainly appropriate for gifted students.

The middle row of the chart points out some of the practical matters that should be taken into consideration in developing a program for the gifted and talented. The first column deals with identifying strengths of students from a variety of data sources; the second column deals with the concept of *buying time* so that gifted youngsters can become involved in the higher level experiences that we recommend; and the third column deals with cognitive and affective development, integration with the regular program, total faculty in-service training and how to develop and organize learning experiences that represent *true* differentiation.

The bottom row (Management) deals with a system for organizing and carrying out the theoretical and practical concerns described in the top two rows of the chart. The forms depicted in this row constitute the major components of our IEP approach and represent a step-by-step procedure for translating theory and practice into actual classroom activities. A general description of these forms and the basic principles guiding their use will be provided in the sections which follow. Before proceeding with this description, however, we will point out the major assumptions underlying this IEP approach and delineate the key functions of persons responsible for implementing the model.



Underlying Assumptions of the IEP Model

The first and certainly most unquestionable assumption underlying our IEP approach is that many gifted students are capable of mastering the regular curriculum at a much faster pace and higher level of proficiency than students in the general school population. Although it is important for all students to develop mastery in the basic skill areas necessary for further educational and/or vocational pursuits, it is equally important to provide some alternative means which will allow students with varying ability levels to cover basic material at different rates and in ways which will respect a variety of learning styles.

The second assumption underlying this model is that gifted students should be provided with opportunities to identify and to pursue advanced topics and areas of study that hold special fascination for them. Implementation of our model would thus entail developing specific procedures for allowing gifted students numerous opportunities to (1) explore a wider variety of potential interests, (2) identify general areas of special interest, (3) focus or frame problems within these areas, and (4) pursue these self-selected problems in a manner that resembles the *modus operandi* of a first-hand inquirer rather than a passive lesson learner.

The third assumption underlying the model is that the major focus of IEPs for gifted students must be placed on individual strengths rather than weaknesses. Although no one would

argue against a diagnostic/remedial approach to IEPs for handicapped children, our main concern with gifted students is not to find out what is wrong with them and fix them up! Our primary objective is rather to identify both general and specific strengths in higher levels of thinking, creativity and task commitment, and to provide opportunities for developing these strengths in relatively unstructured learning situations.

Implementing the IEP Model

The most essential ingredient for implementing our IEP model is careful student advisement. Such advisement might be carried out by classroom or homeroom teachers, guidance counselors, independent study or special program coordinators, department heads, or persons who are specifically designated to advise gifted and talented students. This function might also be performed by a committee composed of combinations of the above persons. Whomever the *advisor* may be, however, his or her major responsibilities consist of the following five functions:

- Assessing individual student's present levels of scholastic development, individual interests, and learning styles.
- Reviewing the content of particular courses (or segments of courses) to determine if the student (a) has already mastered basic material, (b) is able to master the material through alternative arrangements, and/or (c) is able to substitute advanced level experiences for regular curricular material.
- Making arrangements with instructors regarding alternative approaches for covering material in particular courses and arranging for the documentation of information about compacted coverage in the student's file.
- Assisting students in the development of individual and small group investigations by (a) helping them to identify and focus problems in their individual areas of interest, (b) providing them with methodological and managerial assistance, and (c) helping them to find reasonable outlets and audiences for their works.
- Monitoring the progress of each pupil and providing periodic feedback to the student, his or her parents, and other teachers who have present and future contact with the student.

Specific responsibilities of the advisor as they relate to each aspect of the IEP model will be discussed in the following sections.

Assessing Student Strengths

The first step in preparing IEPs for gifted students consists of gathering and recording information about abilities, interests, and learning styles. Some of this information may be obtained from students' cumulative records of assessment instruments that are routinely administered by the school system. The information might also result from the identification procedures used to screen youngsters for placement in a special program or from instruments that are specifically administered as part of the IEP process. All information should be entered in the appropriate spaces on the *Strength-A-Lyzer* (Figure 1) which is a summary form designed to provide an overview of students' strengths. It should be pointed out that the categories included

in this form are merely guides for recording certain types of information. There may be additional types of assessment data which should be included because of the specific objectives of particular programs. In addition, the format of the *Strength-A-Lyzer* should not lead the user to conclude that all assessment information is derived from tests or structured instruments. Informal observations, examples of students' work, peer and parent evaluations, and student self-evaluations are useful sources of information about strengths and should be recorded on the reverse side of this form.

Figure 1

INDIVIDUAL EDUCATIONAL PROGRAMMING GUIDE															
Strength - A - Lyzer															
								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) _____											
ABILITIES			INTERESTS				LEARNING STYLES								
INTELLIGENCE - APTITUDE - CREATIVITY In the spaces below, enter the results of standardized test scores and circle all scores above the _____ percentile.			As a result of student responses to the Interest-A-Lyzer or other interest assessment procedures, indicate the general area(s) in which levels of interest seem to be High, Average, and Low.				Enter the scores from the Learning Styles Inventory in the spaces below. Circle the highest area(s).								
Test	Area	Date	Raw Score	Grade Equiv.	%	H	A	L	H	A	L	Learning Style	Score	Learning Style	Score
												Projects		Teaching Games	
												Simulation		Independent Study	
												Drill and Recitation		Programmed Instruction	
												Peer Teaching		Lecture	
												Discussion			
TEACHER RATINGS In the spaces below, enter the scores from the Scale for Rating Behavioral Characteristics of Superior Students. Circle unusually high scores.			SPECIFIC AREAS OF INTEREST As a result of individual discussions with the student, indicate particular topics, issues, or areas of study in which the student would like to do advanced level work.				Comments regarding informal observation about Learning Styles and relationships between areas of interest and learning styles.								
Scale	Score	Group Mean	Scale	Score	Group Mean										
Learning			Musical												
Motivation			Dramatic												
Creativity			Comm.: Precision												
Leadership			Comm.: Expressive												
Artistic			Planning												
END OF YEAR GRADES Enter final grades for the past two years.			SUMMARY AND RECOMMENDED ACTION BASED ON ASSESSMENT INFORMATION In this space below summarize (1) strengths, interests, and learning styles, (2) areas in which remedial work or additional skill building appears to be warranted, and (3) specific higher mental processes and advanced skills that should be developed.												
Reading										Art					
Mathematics			Foreign Language												
Language Arts			Other												
Social Studies			Other												
Science															
Music															
<input type="checkbox"/> Check here if additional information is recorded on the reverse side.										Copyright © 1978 by Creative Learning Press, Inc. P.O. Box 320 Mansfield Center, CT 06250. All Rights Reserved.					

Analysis of Abilities

The first section of the *Strength-A-Lyzer* examines information about students' abilities. The results of intelligence, achievement, aptitude and creativity tests should be recorded in the top section of the first block and judgments should be made about the meanings of these scores. Given the fact that all instruments are imperfect devices and that there is no definitive answer to the question "How high is high?", it is important that no single piece of data be used as the basis for final judgments about individualized programming practices. Rather, program personnel should look at the total picture for each pupil and base judgments on the degree to which it is felt

that a youngster can benefit from one or more programming alternatives and curricular adaptations.

A second source of information about student abilities should be derived from the guided judgment of one or more teachers who are familiar with a child's performance. A number of instruments are available to obtain this information but the one referred to on the *Strength-A-Lyzer* is the *Scales for Rating the Behavioral Characteristics of Superior Students* (SRBCSS, Renzulli et al., 1976). The SRBCSS consists of ten dimensions, including Learning, Motivation, Creativity, Leadership, Art, Music, Dramatics, Communication (Precision), Communication (Expressiveness), and Planning. Each of these scales is composed of items which were derived from the research literature dealing with characteristics of gifted and talented persons. Teachers are instructed to read the items carefully and to respond in terms of how frequently the cited characteristics are observed in particular students. Once the forms are filled out, a mean score can be computed for each dimension selected for use by program personnel. Those students who deviate markedly upward from the mean and who also have other indicators of exceptionality should be considered prime candidates for programming or activities designed to enhance the particular abilities being assessed.

Interest Assessment

Building educational experiences around student interests is probably one of the most recognizable ways in which special programs for gifted and talented students differ from the regular curriculum. One strategy for helping students examine their present and potential interests is based on an instrument called the *Interest-A-Lyzer* (Renzulli, 1977). This instrument is a thirteen item questionnaire that is designed to assist students in exploring their individual areas of interest. It has been used with students in grades 3–10 and consists of a variety of real and hypothetical situations to which students are asked to respond in terms of the choices they would make (or have made) were they involved in these activities. The major interest area patterns that might emerge from the instrument are as follows:

Fine Arts and Crafts
Scientific and Technical
Creative Writing and Journalism
Legal, Political and Judicial
Mathematical Managerial
Historical
Athletic and Outdoor Related Activities
Performing Arts
Business
Consumer Action and Ecology Related Activities

Four basic guidelines are recommended for interpreting responses to the *Interest-A-Lyzer* or similar interest survey tools. The first step involves small group discussions in which students are asked to share their responses to particular items. During these discussions an effort should be made to discover the general pattern(s) of interest each youngster may have.

The second major step in analyzing responses consists of grouping students together according to similar interest patterns and exploring a wide variety of possible activities that might emerge from such patterns. In certain cases where group projects or whole-class activities are desirable, it is suggested that an area with multi-faceted opportunities for creative expression be selected as a vehicle for subsequent activity.

A third step in the follow-up process consists of *feasibility* studies. Certain interests may be outside the realm of possibility because of excessive cost, insufficient time, or the unavailability of needed resource persons or materials. Feasibility studies and discussions about the obstacles and possible consequences of certain areas will help to channel interests within realistic parameters of student activity.

The fourth and perhaps most important step in following up on responses consists of problem focusing. This phase of interest analysis is more complex than the previous ones and entails asking the question: "How does the professional go about choosing and focusing on a topic?" The reader who is interested in an in-depth treatment of this question is referred to *The Enrichment Triad Model: A Guide for Developing Defensible Programs for the Gifted and Talented* (Renzulli, 1977). Suffice it to say at this point that the information and conclusions that result from this four-stage analysis of student interests should be entered on the *Strength-A-Lyzer* in the section entitled "Special Areas of Interest."

Learning Styles Evaluation

The final section of the *Strength-A-Lyzer* examines information about students' learning style preferences. Although several definitions of learning style can be found in the educational and psychological literature, the definition we recommend for use in designing individualized educational programs is one which focuses on specific and identifiable learning activities. Our definition considers learning styles to be one or more of the following nine instructional strategies most preferred by individual students as they interact with particular bodies of curricular materials:

- Projects
- Drill and Recitation
- Peer Teaching
- Discussion
- Teaching Games
- Independent Study
- Programmed Instruction
- Lecture
- Simulation

A research-based instrument that was developed to provide information about student attitude toward these nine general modes of instruction is entitled the *Learning Styles Inventory: A Measure of Student Preference for Instructional Techniques* (Renzulli & Smith, 1978). The *Inventory* consists of a series of items which describe various classroom learning experiences. Students are asked to read the items carefully and respond in terms of how pleasant they find

participating in each one. They are told that there are no right or wrong answers and that the information gained from the *Inventory* will be used to help plan future classroom activities.

A teacher version of the *Learning Styles Inventory* accompanies each set of student forms. This form is designed as a tool for teachers to look at the range of instructional strategies used in their own classrooms. The items included on this form parallel those on the student form but in this case, teachers respond in terms of how frequently each activity occurs in the classroom. The profile of instructional styles resulting from this procedure can be compared to individual student preferences and can serve to facilitate a closer match between how teachers instruct and the styles to which students respond most favorably.

All LSI forms are prepared on optical scanning sheets and are scored by computer. Computer analysis results in a variety of classroom reports including:

- Raw scores for individual students on each learning style dimension
- A quick summary sheet indicating each students' two most preferred and two least preferred learning style dimensions
- A grouping report which lists students who find each approach in the pleasant and unpleasant range
- A profile of each student's learning style preferences
- A class profile of learning style preferences
- A profile of the teacher's general instructional emphasis.

The information derived from these reports should be summarized and entered in the final section of the *Strength-A-Lyzer* form.

Compacting and Streamlining the Regular Curriculum

The second phase of the IEP model is designed to overcome the dilemma between covering the regular curriculum and providing enrichment experiences for gifted youngsters. This phase is built around the IEP guide entitled *The Compactor* (Figure 2) which provides a systematic plan for compacting and streamlining the regular curriculum. The basic goals of *The Compactor* are twofold. First, the plan is designed to relieve gifted students of the boredom that often results from unchallenging work in basic skill areas, and at the same time, to guarantee the student, his or her parents, and subsequent grade-level teachers that the child has mastered standard competencies necessary for later achievement. The second objective is simply to buy the student sometime so that he or she can pursue acceleration and enrichment activity.

The Compactor is divided into three major sections. The first section, "Curriculum Areas to be Considered for Compacting," should be pursued after the *Strength-A-Lyzer* has been completed and a comprehensive profile of the child's abilities, interest, and learning styles has been prepared. This profile will assist in providing the assessment information or evidence that suggests a need for compacting in one or more areas of the curriculum. The second section, "Procedures for Compacting Basic Material," will be discussed below as it relates to the material summarized in Column 1 of *The Compactor*.

The second approach to compacting uses the topic, instructional unit, or coordinated set of basic skill objectives as guides for determining a compacting period. This approach is probably more realistic for gifted students because of the difficulties involved in fitting particular units of study within predetermined time periods. Regardless of which approach is used, however, it is important to monitor the youngster regularly and to insure that the child is maintaining a high level of proficiency in areas that may show up on achievement tests or at later grade levels.

The following case study is provided to illustrate how *The Compactor* has been used to buy time for a particular gifted student. Brenda is a third grade student who has scored two years above grade level on the reading and language arts sections of a standardized achievement test. She is an avid reader and has recently completed Unit 1 in the *Pathfinder* series and is about to embark upon Unit 2. Brenda's score on the Unit 1 *Criterion Reference Test* was 100 percent and she completed all workbook exercises without making a single error.

Prior to beginning the second unit, Brenda's teacher administered the unit pretest. This instrument assesses the basic skill objectives taught in the unit. The following general areas are covered: decoding, comprehension, language usage, vocabulary, and research and study skills. The fourteen specific objectives related to these general areas are listed in the teacher's edition of the reading text. Figure 3 shows the entry that Brenda's teacher made in the first column of *The Compactor*.

The information in Figure 3 represents (1) the material to be covered in Unit 2 and (2) the evidence that suggests a need for compacting. Since it would be a relatively useless task to rewrite the objectives on the IEP form, the teacher simply referred to the specific pages in the teacher's edition where these objectives are outlined.

Figure 3

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.
Unit 2, Level 14 - Hand Sounds Objectives -- see p. 64 in <u>Teacher's Edition</u> (attached). All items on Pretest (attached) correct with exception of questions dealing with grapheme-phoneme correspondence.

Although Brenda has demonstrated almost perfect mastery of skills in Unit 2, we note in Figure 3 that she has experienced some difficulty in the general area of decoding. The teacher therefore selected some training activities and procedures for checking on subsequent mastery. The teacher's entry for the second column on *The Compactor* (Figure 4) consists of a brief notation of her plan.

Figure 4

<u>PROCEDURES FOR COMPACTING BASIC MATERIAL</u> Describe activities that will be used to guarantee proficiency in basic curricular areas.
Do pg 23 in <u>Workbook</u> and <u>Skill Reinforcement Master No 6</u> . Check proficiency by using activity No 3, pg 76 in <u>Teacher's Edition</u> and <u>Criterion Reference Test</u> items dealing with decoding (<u>Workbook</u> , pg. 133, Nos 1-4).

This example illustrates only one of numerous ways in which a compacting plan can be notated. Whenever possible, teachers should make use of diagnostic instruments that are available in the basic skill areas, be it reading, language or mathematics. These instruments take the form of pretests, end-of-unit tests, or summary exercises that contain a sampling of the major concepts presented in a designated unit of instruction. Although materials in curricular areas such as science and social studies are not as tightly sequenced as basic skill activities, there is, nevertheless, a general curricular movement toward management by objectives, and this approach will greatly facilitate both the diagnostic and compacting processes. In cases where such tests or diagnostic instruments are not readily available, the teacher can review the main objectives of a given unit and construct an instrument using related workbook or textbook exercise items.

Designing Acceleration and Enrichment Activities

After having helped a gifted youngster master the regular curriculum in a more economical and efficient manner, the next step in the IEP process is to explore a wide variety of acceleration and/or enrichment alternatives. This will require making some basic decisions about the subject matter *boundaries* within which enrichment activities will fall. If, for example, we have compacted several curriculum units in the area of mathematics, a decision must be made regarding whether the time that has been bought will be devoted to enrichment or acceleration in this particular area of the curriculum. Although practical and organizational concerns may place certain restrictions on enrichment alternatives, the crucial consideration in making decisions about advanced level opportunities should be the interests of the student. Thus, in the situation described above there should be no question whatsoever about an advanced mathematics experience if the student is genuinely interested in math. Problems may arise, however, if we force the youngster into advanced math when he or she would rather pursue some other topic or area of study.

One of the best ways to facilitate the completion of *The Compactor's* third column is to develop a list of all available enrichment and acceleration alternatives within a given school district. This list may be modest to begin with but as resources and special services to gifted students expand, the list can serve as an important part of the planning and program development process. In fact, in some cases it may be sufficient to merely report the name of an advanced course into which a youngster has been placed as a result of the IEP process.

Decisions regarding the last column on *The Compactor* will seldom if ever be made with 100 percent certainty. Careful consideration should therefore be given to information assembled on the *Strength-A-Lyzer* form and all acceleration and/or enrichment activities should always be subject to review and modification.

Developing Management Plans for Individual and Small Group Investigations

The third major component of this IEP model is the Management Plan (Figure 5) which is designed to guide the development of individual and small group investigations of real problems. As suggested on this Plan, the investigation of real problems is a different type of experience than the ritualistic reports and projects characteristically assigned in many enrichment programs. In these types of activities, the student emulates the practicing professional within given fields of endeavor and hopefully becomes a first-hand inquirer him or herself. Although students doing this type of advanced work may draw upon existing knowledge, their purpose in doing so is not simply to rewrite or summarize information that is already known. Rather, their primary goal is to solve an existing problem, to add to present bodies of knowledge, or to create an artistic product that is relatively new to a given field. These contributions, in turn, are shared with well-defined target audiences which can give meaningful and productive feedback to the young scientist, author or artist.

The *Management Plan*, then, attempts to parallel the procedures or ways of thinking that are followed by the first-hand inquirer. After the inquirer has identified a general area in which he or she would like to do advanced-level work, the next step is to focus in upon a particular problem within the general area. By using appropriate problem focusing techniques, the student can begin to fill in the material requested in the box entitled “Specific Area of Study.” A great deal of careful thought should be given to completing this box because all subsequent activities will reflect the degree of clarity with which the problem is focused and stated.

The two boxes labeled “Intended Audiences” and “Intended Products and Outlets” are designed to help *steer* the student toward thinking about the final form that his or her investigation will take and about the audiences potentially concerned with the results. These boxes are perhaps the key to differentiating between the orientation of normal student reportage and that of first-hand inquiry. While it is neither necessary nor practical for teachers to have the names of all possible audiences and outlets at their fingertips, persons programming for gifted and talented youngsters should be capable of finding out their existence and availability.

The two larger boxes on the *Management Plan* (i.e., “Getting Started” and “Methodological Resources and Activities”) are intended to provide a *running account* of the procedures and resources that will be used throughout the duration of an investigative activity. Both of these boxes should be completed cooperatively by the teacher and student, and modifications should be made as new activities are followed through and as a greater variety of resources are brought to the student’s attention.

Figure 5

MANAGEMENT PLAN FOR INDIVIDUAL AND SMALL GROUP INVESTIGATIONS			
(Actual Size: 11" x 17")			
			Prepared by: Joseph S. Renzulli Linda H. Smith
NAME _____	GRADE _____	Beginning Date _____	Estimated Ending Date _____
TEACHER _____	SCHOOL _____	Progress Reports Due on Following Dates _____	
GENERAL AREA(S) OF STUDY (Check all that apply) <input type="checkbox"/> Language Arts/Humanities <input type="checkbox"/> Science <input type="checkbox"/> Personal and Social Development <input type="checkbox"/> Social Studies <input type="checkbox"/> Music <input type="checkbox"/> Other (Specify) _____ <input type="checkbox"/> Mathematics <input type="checkbox"/> Art <input type="checkbox"/> Other (Specify) _____		SPECIFY AREA OF STUDY Write a brief description of the problem that you plan to investigate. What are the objectives of your investigation? What do you hope to find out?	
INTENDED AUDIENCES Which individuals or groups would be most interested in the findings? List the organized groups (clubs, societies, teams) at the local, regional, state, and national levels. What are the names and addresses of contact persons in these groups? When and where do they meet? 1. _____ 2. _____ 3. _____ 4. _____ 5. _____	INTENDED PRODUCT(S) AND OUTLETS What form(s) will the final product take? How, when, and where will you communicate the results of your investigation to an appropriate audience(s)? What outlet vehicle (journals, conferences, art shows, etc.) are typically used by professionals in this field?	METHODOLOGICAL RESOURCES AND ACTIVITIES List the names & addresses of persons who might provide assistance in attacking this problem. List the how-to-do-it books that are available in this area of study. List other resources (films, collections, exhibits, etc.) and special equipment (e.g., camera, tape recorder, questionnaire, etc.). Keep continuous record of all activities that are part of this investigation.	
GETTING STARTED What are the first steps you should take to begin this investigation? What types of information or data will be needed to solve the problem? If "raw data," how can it be gathered, classified, and presented? If you plan to use already categorized information or data, where is it located and how can you obtain what you need?			
A complete description of the model utilizing this form can be found in: <i>The Enrichment Triad Model: A Guide For Developing Defensible Programs For The Gifted And Talented.</i> Creative Learning Press, Inc., P.O. Box 320, Mansfield Center, CT 06250.			
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If completed carefully, the cells on the *Management Plan* will not only guide the student's independent activity but can serve as valuable evaluation data. For example, if one of the objectives of a special program for the gifted is to encourage students to engage in a wider variety of studies or in studies that involve interdisciplinary topics, a simple frequency count or percentage report of the number of areas checked in the "General Areas of Study" box will indicate to some extent whether this particular objective is achieved. And of course the very fact that student's work has been *good enough* to gain acceptance or recognition by an appropriate audience is itself an indication of quality. For this reason, it is suggested that teachers maintain a continuous record of student articles that have been published, student presentations before various special interest groups, and displays of performances that have resulted from students' investigative activities.

Summary

The purpose of this article was to provide a brief overview of the IEP model that we developed to guide teachers in their efforts to individualize the learning process for gifted and

talented students. Three assumptions underlying this model were discussed and a list of five key functions of persons responsible for implementing the model were provided.

The remaining portion of the article was devoted to a description of three management forms that constitute our IEP approach. These forms, entitled the *Strength-A-Lyzer*, *Compactor* and *Management Plan for Individual and Small Group Investigations of Real Problems*, represent a step-by-step procedure for translating theoretical principles derived from the research literature into actual classroom learning activities for gifted and talented students.

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Dr. Renzulli is Professor of Educational Psychology at the University of Connecticut, Storrs, CT. **Dr. Smith** is a colleague of Dr. Renzulli and has done extensive research on analysis of learning styles.